Nonlinearly-constrained optimization using heuristic penalty methods and asynchronous parallel generating set search

Joshua D. Griffin^a and Tamara G. Kolda^{b*}

^aSAS Institute Inc., Cary, NC 27513.

^bMathematics, Informatics, and Decision Sciences Department, Sandia National Laboratories, Livermore, CA 94551-9159.

Abstract: Many optimization problems are characterized by expensive objective and/or constraint function evaluations paired with a lack of derivative information. Direct search methods such as generating set search (GSS) are well understood and efficient for derivative-free optimization of unconstrained and linearly-constrained problems. This paper presents a study of heuristic algorithms that address the more difficult problem of general nonlinear constraints where derivatives for objective or constraint functions are unavailable. We focus on penalty methods that use GSS to solve a sequence of linearly-constrained problems, numerically comparing different penalty functions. A classical choice for penalizing constraint violations is ℓ_2^2 , the squared ℓ_2 norm, which has advantages for derivative-based optimization methods. In our numerical tests, however, we show that exact penalty functions based on the ℓ_1, ℓ_2 , and ℓ_{∞} norms converge to good approximate solutions more quickly and thus are attractive alternatives. Unfortunately, exact penalty functions are nondifferentiable and consequently degrade the final solution accuracy, so we also consider smoothed variants. Smoothed-exact penalty functions are attractive because they retain the differentiability of the original problem. Numerically, they are a compromise between exact and ℓ_2^2 , i.e., they converge to a good solution somewhat quickly without sacrificing much solution accuracy. Moreover, the smoothing is parameterized and can potentially be adjusted to balance the two considerations. Since our focus is on optimization problems that are characterized by expensive function evaluations, reducing the number of function evaluations is paramount, and the numerical results of this paper suggest that exact and smoothed-exact penalty functions are well-suited to this task.

KEY WORDS nonlinear constraints; constrained optimization; penalty methods; direct search; derivative-free; generating set search (GSS); parallel; asynchronous

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1 Introduction

We consider the problem of incorporating nonlinear constraints in the generating set search (GSS) optimization method. GSS is a derivative-free optimization method. As a motivating application, consider the typical problem of parameter tuning for a partial differential equations (PDEs) simulation, where the goal is optimize the fit to experimental data or some design objective. We assume that the number of optimization variables is small, corresponding to the parameters of the PDE and not the state variables. Due to the complexity of the simulations, which involve mesh generators, iterative nonlinear and linear solvers, and so on, gradients may not be readily available even though the underlying infinite-dimensional objective and constraint functions are theoretically smooth. In our experience, furthermore, some simulation codes are too complex to apply tools for automatic differentiation and too noisy to approximate the gradients. In such cases, we need to use derivative-free optimization techniques such as GSS [20].

To specifically motivate GSS as the direct search method of choice, we list three further challenges. First, problems that are based on large-scale simulations can require significant computation time on the order of minutes, hours, and even days. To make the solution time practical, therefore, we need to do multiple evaluations in parallel and do as few evaluations overall as possible. Second, the simulation time can vary from evaluation to evaluation. For example, suppose a black-boxed objective function is wrapped around a large-scale PDE simulation. These simulations typically require many linear solves, and the speed of these depends on how effective the preconditioner is, which can vary for different parameters. Third, real-world problems tend to be based on simulations that fail from time to time for unexplained reasons. Consequently, a practical solver must be robust to evaluations that fail to return any results.

*Correspondence to: tgkolda@sandia.gov

Copyright © 0000 Oxford University Press Prepared using oupau.cls [Version: 2007/02/05 v1.00] Generating set search (GSS) [20] has proven to be a useful tool for these sorts of problems in the unconstrained and linearly-constrained cases. These methods are easily parallelized, meaning that multiple function evaluations can be performed simultaneously. Moreover, the evaluations in GSS can be done asynchronously, which has been shown to decrease overall solve time in several case studies [16, 19, 14]. Though asynchronous methods are not a primary focus of this study, we mention them as later motivation for the subproblem solver. Finally, GSS is robust in the presence of missing evaluations [19, 13, 14]. GSS is a family of methods that includes generalized pattern search [37, 22, 23, 3, 20].

The goal of this paper is to extend parallel GSS methods to incorporate nonlinear constraints in a heuristic fashion. In this realm, only a few options exist in theory or practice, and none is implemented in parallel. Lewis and Torczon proposed an augmented Lagrangian method based on pattern search [24] and, with Kolda, later based on GSS [21]. The augmented Lagrangian method is expensive in terms of the number of function evaluations. Audet and Dennis have proposed a filter-like method for handling constraints in the context of pattern search [4] as well as mesh adaptive pattern search that uses semi-random search directions [2]. The filter-like method has some similarities to the approach described here in that, while no penalty parameter is used in a filter method, the smoothness of the choice of norm used to quantify constraint violations still plays a key role in convergence. More recently, building on concepts from their filter approach, a progressive-barrier approach is described in [1] that utilizes a filter to update a barrier parameter, relaxing the extreme barrier function and permitting large initial step-sizes.

Liuzzi, Lucidi, and Sciandrone [27] use compass search to solve a sequence of bound-constrained subproblems, incorporating vector norms of the form $\rho \|c^+(x)\|_q^q$ to penalize constraint violation for general constraints. Because such classes of penalty function are smooth, ρ may become arbitrarily large. Liuzzi and Lucidi [25] alternatively use smoothed approximations to the ℓ_{∞} exact penalty function to handle nonlinear constraints, and GSS to explicitly handle linear and bound constraints. A marked benefit of this approach being that smaller values of ρ may be used, while all trial-points remain feasible with respect to the linear constraints. Whereas in the latter, linear constraint feasibility is approached only in the limit, for sufficiently large penalization.

This paper focuses on penalty methods and is akin to approaches used in [24, 21, 25] in that a sequence of merit-function-based, linearly-constrained subproblems is solved. To give a more precise description, we establish the following notation. The nonlinear programming problem is

$$\min_{x \in \mathbb{R}^n} \quad f(x),$$
subject to $c_{\mathcal{E}}(x) = 0,$
 $c_{\mathcal{I}}(x) \le 0,$
 $l \le Ax \le u.$
(1)

Here, $f : \mathbb{R}^n \to \mathbb{R}$ is the objective function, $c : \mathbb{R}^n \to \mathbb{R}^m$ combines the m_e equality and m_i inequality nonlinear constraints with $\mathcal{I} \cup \mathcal{E} = \{1, \ldots, m = m_e + m_i\}$. The matrix $A \in \mathbb{R}^{p \times n}$ contains all linear constraints and we require only that $l \leq u$ (permitting equality constraints). Penalty methods transform constrained optimization problems into a sequence of unconstrained (or linearly constrained) subproblems, whose solutions converge to a solution of the original optimization problem. Consequently, (1) is reduced to a sequence of linearly constrained problems of the following form:

$$\min_{x \in \mathbb{R}^n} \quad f(x) + \mathcal{P}(x, \rho_k), \\
\text{subject to} \quad l \le Ax \le u.$$
(2)

The penalty function $\mathcal{P}: \mathbb{R}^n \to \mathbb{R}$ enforces feasibility in the limit, i.e.,

$$\lim_{\rho \to \infty} \mathcal{P}(x, \rho) = \begin{cases} +\infty & \text{if any nonlinear constraint is violated,} \\ 0 & \text{otherwise.} \end{cases}$$

The parameter ρ_k is referred to as the penalty parameter and determines the severity of the penalty. See, e.g., Luenberger [28] and Fiacco and McCormick [10] for general discussions on penalty methods. Our focus here is on treating the nonlinear constraints as soft constraints, i.e., constraints that need not be satisfied at every iteration. For hard nonlinear constraints, we recommend an extreme barrier approach as in [4, 1]. Conversely, we treat the linear constraints as hard constraints because the search pattern in GSS can be adapted to conform to the polyhedral boundaries.

The goal of this paper is to investigate the numerical suitability of different penalty functions in the context of derivative-free optimization. Before we continue, it is important to understand that for optimization in a simulation context, there is a hierarchy of goals, and the computation of an exact Karush-Kuhn-Tucker (KKT) point is not first on the list. Generally, the goal in optimization for real-world problems is *improvement* in the objective function and achieving feasibility with respect to the nonlinear constraints. Ideally, we want to find a KKT point; in practice, however, we must balance finding an accurate solution with getting a timely solution. So, preference goes to methods that find a good solution in a O(1000) evaluations rather than a perfect solution in O(100,000) evaluations. Note that O(1000) evaluations is typical in practice when the optimization code can parallelize the expensive function evaluations. For example, [35] used a parallel generating set search and performed over 4000 PDE-based function evaluations (using an extreme barrier approach for their nonlinear constraints due to a lack of alternatives at the time of their research) on a shape optimization problem with 38 optimization variables. Parallel genetic algorithms are frequently used in this domain as well; [41, 5] report over 4000 and 3000 function evaluations, respectively, for shape design optimization problems. Such a large number of function evaluations may be prohibitive in serial, but the run-times are greatly reduced in parallel. Even with parallelism, however, methods that "waste" evaluations over-solving a subproblem are not ideal. Ultimately, feasibility is paramount because an infeasible approximate solution, even with a very low objective value, is generally useless to the application. Thus, our primary goal, given a budget of evaluations, is that on exit we provide an approximate solution satisfying the user specified constraint violation tolerance. It is with these criteria in mind that we proceed to discuss various penalty functions.

To simplify descriptions of the penalty functions, we use the standard transformation to all nonlinear equality constraints by defining $\hat{c} : \mathbb{R}^n \to \mathbb{R}^m$ as

$$\hat{c}_i(x) = \begin{cases} c_i(x) & \text{if } i \in \mathcal{E}, \\ \max\{0, c_i(x)\} & \text{if } i \in \mathcal{I}. \end{cases}$$

Perhaps the most common penalty function is based on the squared ℓ_2 norm:

$$\mathcal{P}_{\ell_2^2}(x,\rho) = \rho \|\hat{c}(x)\|_2^2.$$
(3)

The ℓ_2^2 penalty function has the advantage of being smooth and having "simple" derivatives. For instance, if only equality constraints are present, then

$$\frac{\partial \mathcal{P}_{\ell_2^2}(x,\rho)}{\partial x} = J(x)^T \pi(x),$$

where J(x) denotes the Jacobian of c(x) and $\pi(x) = 2c(x)$. Thus, in derivative-based approaches, one may exploit the simple linear relationship between the Lagrange multipliers of (1) and c(x) [30]. More complex penalty functions mean that the relationship between c(x) and the corresponding $\pi(x)$ would necessarily be nonlinear because the derivatives are no longer "simple".

Our subproblem solver, GSS, requires the existence of derivatives for the convergence theory to apply; however, the specific structure of the derivatives is irrelevant because they are not used explicitly. Still, smoothness is important because non-smooth penalty functions can cause GSS to converge to a non-differentiable point rather than a KKT point; see, e.g., [20]. Consequently, the "simplicity" of the derivatives for the ℓ_2^2 penalty function is not important, but its smoothness is.

A major drawback to the ℓ_2^2 penalty function is the uneven way that it penalizes constraints. It places extreme emphasis on constraint violations larger than one and little emphasis on violations less than one. This means that ρ_k has to be very large to enforce asymptotic feasibility. But larger values of ρ_k force GSS to take a zig-zag route down steep constraint valleys using very small steps. Consequently, our experiences with the ℓ_2^2 penalty function and the closely-related augmented Lagrangian merit function,

$$f(x) + \lambda^T \hat{c}(x) + \rho \|\hat{c}(x)\|_2^2$$

have not been satisfactory because both require a large number of function evaluations.

Motivated by the problems we have observed in this context with the ℓ_2^2 penalty function, this paper considers the numerical benefits and disadvantages of alternative penalty functions in the context of getting a good approximate solution in a small number of evaluations. Exact penalty functions are attractive because there exists a finite penalty parameter ρ such that a minimizer of (2) coincides with the minimizer of (1). In this paper we consider exact penalty functions based on the ℓ_1 , ℓ_2 , and ℓ_{∞} norms. A difficulty with exact penalty functions is their inherent non-smoothness. However, since we are using GSS to solve the subproblem (2), gradients are not explicitly required. The primary drawback in our context is that the subproblem solver may not converge to a constrained stationary point of (2); instead, it may converge to a point of non-differentiability. Nonetheless, our computational experiments on a collection of CUTEr nonlinearly constrained test problems indicate that using exact penalty functions has several advantages. Overall, the number of function evaluations is significantly reduced; approximately 80% of the problems successfully terminate in 1000 function evaluations or less versus 63% for ℓ_2^2 . The quality of the final objective function did degrade somewhat, but approximately 84% of the problems were no more than 10% worse than the ℓ_2^2 final value (and some were better).

In order to "fix" the non-smoothness of exact penalty functions, many authors have proposed smoothed variants, e.g., [6, 36, 9, 34, 33, 42, 26, 25]. We tested smoothed-exact penalty functions based on the ℓ_1 , ℓ_2 , and ℓ_{∞} norms. Because these functions are smooth, i.e., twice continuously differentiable, the (parallel asynchronous) GSS subproblem solver is guaranteed to converge to a local optimum for (2) [15, Theorem 3.13]. In our computational experiments, the number of function evaluations was still reduced (compared to ℓ_2^2); approximately 73% of the problems successfully terminated in 1000 function evaluations or less. The quality of the final objective function improved as compared to the exact penalty functions; approximately 96% of the problems were less than 10% worse than the ℓ_2^2 final value.

The outline of the paper is as follows. In §2, the general penalty method for solving (1) as a sequence of linearly-constrained subproblems is described as well as the testing environment. In §3, exact penalty functions based on the ℓ_1 , ℓ_2 , and ℓ_{∞} norms are compared to the ℓ_2^2 penalty function. Smoothed variants of these exact penalty functions are examined in §4. Finally, §5 looks at related work on penalty functions, and §6 summarizes our findings. Detailed numerical results can be found in Appendix A.

2 Algorithmic framework

The basic framework in Algorithm 1 is the same for all penalty functions. At each iteration, we solve a linearlyconstrained subproblem of the form in (2). The iterations to solve the subproblem are referred to as "minor iterations", while the iterations of Algorithm 1 are referred to "major iterations". Not all subproblems are solved to the same accuracy; instead, the accuracy is increased as the major iterations progress. Additionally, the penalty parameter is increased as the major iterations progress. The method continues until either the constraint violation is reduced to the desired level and the subproblem is solved to the desired accuracy, or the budget of function evaluations is exhausted.

The penalty function $\mathcal{P}(x, \rho, \alpha)$ in Algorithm 1 has two parameters in addition to x. The parameter ρ controls the constraint penalization, as in (3). The new additional parameter α controls the degree of smoothing for the smoothed exact penalty functions discussed in §4. Higher values of α indicate more smoothing. It can be safely ignored for penalty functions that do not require it by initializing $\alpha_0 = 0$.

At each major iteration, a linearly-constrained subproblem of the form in (2) is solved using asynchronous, parallel GSS (APGSS) for linearly-constrained problems as described in [14]. As inputs, it takes the solution of the last subproblem (x_k) , the penalty-based objective function with $\rho = \rho_k$ and $\alpha = \alpha_k$, the stopping tolerance (δ_k) , and the maximum number of function evaluations allocated for the subproblem (S_{max}) . The subproblem does a series of minor iterations until it converges or exhausts the function evaluations. It returns the best point found, x_{k+1} ; the number of function evaluations used, S; and a flag, state, indicating whether or not the subproblem solver exited successfully with all step lengths less than δ_k .

An important factor is reducing the overall constraint violation, which is measured in terms of the maximum violation given by

$$\eta(x) = \max\{ |\hat{c}_i(x)|, i = 1, \dots, m\}.$$
(4)

Consequently, $\eta(x)$ plays a role in the convergence of the algorithm. Algorithm 1 is considered to have exited successfully if the following three criteria are satisfied:

- 1. The subproblem stopping tolerance is less than the desired final tolerance δ^* . Note that δ_k is allowed to drop below δ^* but not below δ_{\min} .
- 2. The subproblem is solved successfully, meaning that APGSS successfully exited with a step length tolerance of $\delta_k \leq \delta^*$.
- 3. The penalty parameter is large enough so that the maximum constraint violation, $\eta(x_{k+1})$, is less than the specified threshold, η^* .

Note also that the penalty parameter ρ is not increased if $\eta(x_{k+1})$ is sufficiently small. Though there are many options for controlling the reduction and growth rates of the penalty parameter, smoothing parameter, and stopping tolerance, we opted for a simple scheme because our primary goal at this point is to directly compare different penalty functions and not the fine tuning of a particular approach.

Detailed results and algorithmic settings are provided in Appendix A, and summary results comparing the number of function evaluations and final objective values are discussed in the sections that follow. The test set comprised all CUTEr [12] problems with up to ten variables and between one and ten nonlinear constraints, for a total of 145 problems. A run for a given test problem and penalty function either terminates successfully (meaning, at a minimum, that $\eta(x^*) < \eta^*$) or unsuccessfully (e.g., because the number of function evaluations

Algorithm 1 Generic penalty method with APGSS **Require:** $\mathcal{P}(\cdot, \cdot, \cdot)$ \triangleright Choose penalty function **Require:** x_0 satisfying $l \leq Ax_0 \leq u$ \triangleright Initial starting point **Require:** $S_{\max} > 0$ ▷ Max evaluations per subproblem **Require:** $T_{\max} \gg S_{\max}$ \triangleright Max evaluations overall **Require:** $\rho_{\max} \gg 1$ ▷ Maximum allowable penalty parameter **Require:** $0 < \rho_0 < \rho_{\max}$ ▷ Initial value for penalty parameter **Require:** $\alpha_0 > 0$ ($\alpha_0 = 0$ if not smoothed) \triangleright Initial value for smoothing parameter **Require:** $0 < \alpha_{\min} < \alpha_0$ \triangleright Minimum value for the smoothing parameter **Require:** $\delta^* > 0$ ▷ Final subproblem stopping tolerance **Require:** $0 < \delta_{\min} < \delta^*$ ▷ Minimum subproblem stopping tolerance **Require:** $\delta_0 > \delta^*$ ▷ Initial subproblem stopping tolerance **Require:** $\eta^* > 0$ \triangleright Final constraint tolerance 1: $k \leftarrow 0$ 2: $T \leftarrow 0$ 3: while not converged do $(x_{k+1}, S, \mathtt{state}) \leftarrow \operatorname{APGSS}(x_k, \mathcal{P}(\cdot, \rho_k, \alpha_k), \delta_k, S_{\max})$ \triangleright Solve subproblem 4: if $\delta_k < \delta^*$, state is successful, and $\eta(x_{k+1}) < \eta^*$ then 5: **exit** (successfully) 6:7: end if $T \leftarrow T + S$ \triangleright Update total number of evaluations 8: if $T > T_{\max}$ then 9: 10: **exit** (unsuccessfully) end if 11: if $\eta(x_{k+1}) > \max\{\eta^*, \frac{m}{5}\alpha_k\}$ then 12:13: $\rho_{k+1} \leftarrow \min\{2\rho_k, \rho_{\max}\}$ \triangleright Increase penalty parameter end if 14: $\alpha_{k+1} \leftarrow \max\{\alpha_k/2, \alpha_{\min}\}$ \triangleright Reduce smoothing parameter 15: \triangleright Reduce subproblem stopping tolerance 16: $\delta_{k+1} \leftarrow \max\{\delta_k/2, \delta_{\min}\}$ $k \leftarrow k + 1$ 17:18: end while

was exhausted). The number of problems in the union of all successful terminations is 128, so we use this in computing percentages of problems solved within a given number of function evaluations. Conversely, the number of problems in the intersection is 98, and we restrict ourselves to these when comparing the relative accuracies. Note that since the subproblems are solved using the *asynchronous* method APGSS, we tested each penalty function multiple times and averaged the results. A penalty function is only reported to have exited successfully if it did so on *every* run. Also, in comparing the number of function evaluations, note that APGSS caches the objective and constraint function values for re-use in future minor and even major iterations, which means the same point will never be evaluated twice in the same run. Efficient re-use of previously evaluated points is critical for applications where evaluations are expensive.

3 Exact penalty functions

Exact penalty methods are attractive because there exists a finite value of the penalty parameter ρ such that a minimizer of (2) coincides with a solution to (1); see, e.g., [28]. On the other hand, a drawback for exact penalty functions based on primal variables (as opposed to dual variables) is that they are necessarily non-smooth at an optimal point [30]. For an in depth analysis of the optimization of exact penalty functions, see Di Pillo and Grippo [8] and Di Pillo [7]. There are several definitions for exact penalty functions in the literature. To avoid ambiguity, we use the following definition from [8]:

Definition 3.1. The function $\mathcal{P}(x,\rho)$ is an exact penalty function for (1) with respect to a set Ω if there exists an $\bar{\rho} > 0$ such that for all $\rho > \bar{\rho}$, a global (local) unconstrained minimizer of

$$\min_{x \in \Omega^{\circ}} f(x) + \mathcal{P}(x,\rho)$$

is a global (local) minimizer for (1).

Di Pillo and Grippo [8] further show that if the extended Mangasarian-Fromovitz constraint qualification is satisfied on Ω , then

$$\mathcal{P}(x,\rho) = \rho \|\hat{c}(x)\|_q$$

is exact with respect to Ω for $1 \leq q \leq \infty$. In this paper we explore properties of the following exact penalty functions:

$$\mathcal{P}_{\ell_1}(x,\rho) = \rho \|\hat{c}(x)\|_1, \tag{5}$$

$$\mathcal{P}_{\ell_1}(x,\rho) = \rho \|c(x)\|_1, \tag{5}$$
$$\mathcal{P}_{\ell_2}(x,\rho) = \rho \|\hat{c}(x)\|_2, \tag{6}$$

$$\mathcal{P}_{\ell_{\infty}}(x,\rho) = \rho \|\hat{c}(x)\|_{\infty}.$$
(7)

Figure 1 shows two-dimensional contour plots for the ℓ_1 , ℓ_2 , ℓ_∞ and ℓ_2^2 penalty functions, corresponding to two constraints. Dark blue indicates areas where the constraint violation penalty is very small. The bigger this area is, the larger the penalty parameter has to be in order to reduce the constraint violation. Note that this dark blue area is relatively large for ℓ_2^2 and much smaller for the three exact penalty functions. Conversely, the areas in red denote large penalties. Functions with more red restrict the possible steps that the algorithms can take to obtain decrease until the penalty parameter is very small. Once again, the ℓ_2^2 penalty function is the worst in this respect.

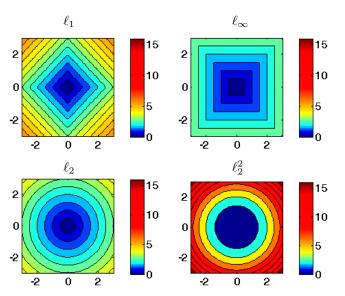


Figure 1: Contours of various penalty functions for two constraints.

Overall the exact penalty functions are more attractive in that they allow larger steps for the GSS subproblem solver and do not require that the penalty parameter be increased very quickly to sufficiently reduce the constraint violation. For example, consider the ℓ_1 penalty function. Because it is linear in the constraint violation, it is possible to take relatively large steps yet decrease the objective value. Furthermore, being linear in the constraint violation means that the penalty parameter does not have to get asymptotically large to enforce constraint feasibility, once again enabling larger steps. Thus, exact penalty functions permit GSS methods to take larger steps than would be permitted by ℓ_2^2 . The downside, as Audet and Dennis [4] demonstrate, is that GSS methods applied to objective functions with exact penalty functions can and do get stuck at points of non-differentiability.

The question is, how often does this happen in practice? Detailed numerical results for a collection of 145 CUTEr test problems are presented in Appendix A. Exact penalty functions were pitted against the ℓ_2^2 penalty function. Recall from §2, that the general framework emphasizes constraint satisfaction overall with $\eta(x_{k+1}) < \eta^*$ being required, at a minimum, for a successful exit. In these tests, $\eta^* = 10^{-3}$. Figure 2 presents

summary results showing how many problems were solved to the specified convergence tolerances for a given number of function evaluations; Table 1 lists how many problems were solved in total. As mentioned previously, the number of function evaluations should be as small as possible. Here we see that the exact penalty methods are able to exit successfully in 1000 function evaluations or less for approximately 80% of the test problems. In contrast, ℓ_2^2 , only solved 60% of the test problems within 1000 evaluations.

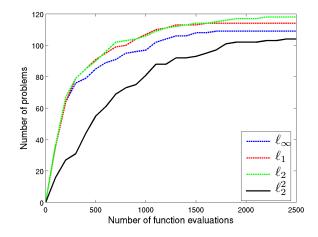


Figure 2: Number of problems that successfully exited for exact methods and ℓ_2^2 .

Penalty	Number	of functio	n evaluations
Function	≤ 1000	≤ 2500	$\leq T_{\rm max}$
ℓ_{∞}	97	109	111
ℓ_1	108	114	118
ℓ_2	106	118	125
ℓ_2^2	81	104	120

Table 1: Number of problems solved for each penalty function.

The number of function evaluations does not tell the entire story. Because of the constraint satisfaction requirement in the general framework, we are only comparing problems that have achieved sufficient feasibility, i.e., $\eta(x) < \eta^* = 10^{-3}$. But there are no explicit requirements on the objective function value. Figure 3 shows the relative difference between the final objective function values for the 98 test problems that all methods were able to solve. The relative difference is calculated as

$$\frac{f(x) - f(y)}{\max\{1, |f(x)|, |f(y)|\}},\tag{8}$$

where x is the solution obtained using the ℓ_2^2 penalty function, and y is the solution obtained using the exact penalty function. Values greater than zero indicate that the exact method did better, whereas values less than zero indicate that the ℓ_2^2 method was better. Table 2 shows the percentage of problems that have the specified relative difference or better.

Table 2: Percentage of the 98 problems solved by all methods that have a relative difference with ℓ_2^2 no smaller than the specified value.

Penalty	Rel.	Diff.
Function	-0.1	-0.01
ℓ_{∞}	84%	65%
ℓ_1	83%	62%
ℓ_2	86%	65%

Observe in Figure 3 that the exact penalty functions found better optima on a few problems. Moreover, the exact methods obtain an objective value that was no more than 10% worse than ℓ_2^2 on 84% of the test problems.

Thus, we may be able to achieve lower overall objective values with ℓ_2^2 , but at a higher cost in terms of the number of function evaluations. Though there is the danger of the subproblem solver failing to find a KKT point, it appears that exact penalty functions obtain, on average, good approximate solutions using fewer evaluations than ℓ_2^2 .

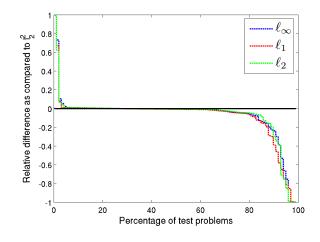


Figure 3: Relative difference in final objective value compared to ℓ_2^2 .

4 Smoothed exact penalty functions

Because GSS methods are derivative-free, they are naturally resilient to the non-smooth nature of an exact penalty function in that there is no problem in executing the method. Yet, GSS methods do not guarantee global convergence to KKT points unless sufficient smoothness is present, perhaps explaining why the final objective values for the exact penalty functions are not as good as those obtained by ℓ_2^2 . Therefore, this section considers smoothed penalty functions that are variants of the ℓ_1 , ℓ_2 , and ℓ_{∞} penalty functions. These penalty functions have a third parameter, α , that controls the degree of smoothing. Let S denote the smoothed version of the exact (nonsmooth) penalty function \mathcal{N} . Each of the penalty functions in this section satisfies the following properties:

1.
$$\mathcal{S}(x,\rho,\alpha) > \mathcal{N}(x,\rho)$$
 for $\alpha > 0$

- 2. $|\mathcal{S}(x,\rho,\alpha) \mathcal{N}(x,\rho)| \leq C\alpha$ for some constant C, independent of ρ , and
- 3. $S(x, \rho, \alpha)$ is smooth if c(x) is smooth.

The motivation for using smoothed penalty functions comes from the fact that the theory of GSS methods (used to solve the linearly-constrained subproblems) requires that the objective function be continuously differentiable. Thus, it is hoped that a continuous objective function will improve overall performance.

The smoothed version of the ℓ_1 penalty function used in this paper is based on Chen and Mangasarian [6], who exploit the properties of the sigmoid function from neural networks to approximate the sign function, integrating the sigmoid function to obtain a smooth approximation to the ℓ_1 penalty function. Their focus is on handling linear and convex inequalities. Spellucci [36] uses this same penalty function for the linear constraints in quadratic programming. The smoothed ℓ_1 penalty function is defined as

$$\mathcal{P}_{s_1}(x,\rho,\alpha) = \sum_{i\in\mathcal{E}} \theta(\rho c_i(x),\alpha) + \sum_{i\in\mathcal{I}} \psi(\rho c_i(x),\alpha),$$
(9)

where

$$\theta(t, \alpha) = \alpha \ln(2 + 2\cosh(t/\alpha))$$

$$\psi(t, \alpha) = \alpha \ln(1 + \exp(t/\alpha)).$$

The equality and inequality constraints are treated separately, though $\theta(t, \alpha)$ is just $\psi(t, \alpha) + \psi(-t, \alpha)$. Spellucci [36] proves the following bounds:

$$\begin{split} |t| &< \theta(t,\alpha) < |t| + \frac{8}{3}\alpha e^{-|t|/\alpha}, \\ t^+ &< \psi(t,\alpha) < t^+ + \frac{4}{3}\alpha e^{-|t|/\alpha}. \end{split}$$

This implies

$$\rho \|\hat{c}(x)\|_{1} < \mathcal{P}_{s_{1}}(x,\rho,\alpha) \le \rho \|\hat{c}(x)\|_{1} + 3m\alpha, \tag{10}$$

since $e^{-|\rho c_i(x)|/\alpha} \leq 1$ for all *i* (recall $\alpha > 0$).

The smoothed version of the ℓ_2 penalty function used in this paper relies on a positive shift parameter to smooth the square-root function as in [9, 31, 38, 18, 40, 34], though of these only [9, 34] used this technique in the context of smoothing the ℓ_2 norm as described in §5. The smoothed version of the ℓ_2 penalty function is given by

$$\mathcal{P}_{s_2}(x,\rho,\alpha) = \rho \sqrt{\|\hat{c}(x)\|_2^2 + (\alpha/\rho)^2}.$$
(11)

It is straightforward to show that

$$\rho \|\hat{c}(x)\|_{2} < \mathcal{P}_{s_{2}}(x,\rho,\alpha) < \rho \|\hat{c}(x)\|_{2} + \frac{\alpha^{2}}{\max(\rho \|\hat{c}(x)\|_{2},\alpha)} \le \rho \|\hat{c}(x)\|_{2} + \alpha.$$
(12)

The smoothed version of the ℓ_{∞} penalty function used in this paper was also used by [33, 42, 26, 25]. Note that Liuzzi and Lucidi [25] and Liuzzi et al. [26] explore properties of this function in the context of derivative-free optimization, and they also handle linear constraints explicitly. The smoothed version of the ℓ_{∞} penalty function is given by

$$\mathcal{P}_{s_{\infty}}(x,\rho,\alpha) = \alpha \ln \left(1 + \sum_{i \in \mathcal{E}} 2 \cosh(\rho c_i(x)/\alpha) + \sum_{i \in \mathcal{I}} e^{\rho c_i(x)/\alpha} \right).$$
(13)

Observe that this can be rewritten as

$$\mathcal{P}_{s_{\infty}}(x,\rho,\alpha) = \alpha \ln \left(1 + \sum_{i \in \mathcal{E}} e^{\rho c_i(x)/\alpha} + \sum_{i \in \mathcal{E}} e^{-\rho c_i(x)/\alpha} + \sum_{i \in \mathcal{I}} e^{\rho c_i(x)/\alpha} \right).$$

Xu [42] (see also Liuzzi and Lucidi [25]) prove the following error bound for the smoothing of the maximum violation norm:

$$\rho \|\hat{c}(x)\|_{\infty} \le \mathcal{P}_{s_{\infty}}(x,\rho,\alpha) \le \rho \|\hat{c}(x)\|_{\infty} + \alpha \ln(1+2m_e+m_i).$$

$$\tag{14}$$

Note that by definition of the ℓ_{∞} norm, $\|\hat{c}(x)\|_{\infty} = \max\{\max_{i \in \mathcal{E}}\{|\hat{c}_i(x)|\}, \max_{i \in \mathcal{I}}\{|\hat{c}_i(x)|\}\}$. The first term corresponding to the equality constraints is equivalent to $\max_{i \in \mathcal{E}} \{\max\{c_i(x), -c_i(x)\}\}$, so it is not necessary to list both the positive and negative versions of $c_i(x)$. Also note that $\max_{i \in \mathcal{E}}\{|\hat{c}_i(x)|\} \ge 0$. The second term corresponding to the inequality constraints is always nonnegative since $\hat{c}_i(x) = \max\{0, c_i(x)\}$ for $i \in \mathcal{I}$. If $c_i(x)$ is negative for any value of $i \in \mathcal{I}$, it is necessarily dominated by the first term corresponding to the inequality constraints.

Again, the question is, how do smoothed methods compare to ℓ_2^2 and their exact counterparts. Detailed results are in Appendix A. Smoothed penalty functions were compared against their exact counterparts and ℓ_2^2 . Figure 4 shows summary results comparing the number of function evaluations required to successfully exit, and Table 3 shows how many problems were solved in total by the method. With the smoothed penalty functions, the method exited successfully in less than 1000 function evaluations on approximately 73% of the test problems. In general, smoothing increased the number of function evaluations as compared to the exact penalties, but this is to be expected as a smooth problem potentially prevents the GSS subproblem solver from exiting early at a non-stationary point. Overall, however, the number of evaluations is still less than ℓ_2^2 .

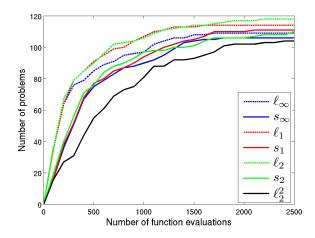


Figure 4: Number of problems that successfully exited for exact, smoothed-exact, and ℓ_2^2 .

Penalty	Number	of function	n evaluations
Function	≤ 1000	≤ 2500	$\leq T_{\rm max}$
s_{∞}	90	106	107
s_1	94	111	114
s_2	96	110	121

Table 3: Number of problems solved for each penalty function.

In exchange for the increase in the number of function evaluations, the objective function value improves. Recall that we are only comparing problems that have achieved sufficient feasibility, i.e., $\eta(x) < \eta^* = 10^{-3}$. Figure 5 shows the relative difference (as in (8)) between the final objective function values for the 98 problems that all methods were able to solve. Table 4 shows the percentage of problems that have the specified relative difference or better.

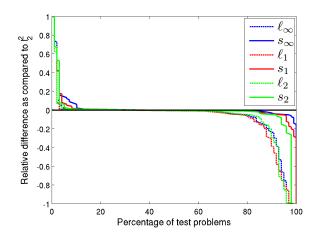


Figure 5: Relative difference in final objective value compared to ℓ_2^2 .

Table 4: Percentage of the 98 problems solved by all methods that have a relative difference with ℓ_2^2 no smaller than the specified value.

Penalty	Rel.	Diff.
Function	-0.1	-0.01
s_∞	99%	85%
s_1	96%	80%
s_2	94%	79%

The smoothed-exact penalty functions found even more improved optima than the exact penalty function (these are reflected as positive relative differences in the graph). Moreover, the smoothed-exact methods obtain an objective value that was no more than 10% worse than ℓ_2^2 on approximately 96% of the test problems that all methods solved.

Smoothed-exact penalty functions offer a potential compromise between obtaining a good objective value and reducing the number of function evaluations. The smoothing parameter can be adjusted to give a better solution or fewer function evaluations, depending on the preferences of the user.

5 Related Work

In §4 we described a particular choice of smoothing the ℓ_1 penalty function using integrals of the sigmoid function for neural networks proposed by Chen and Mangasarian [6] in the context of handling convex inequalities and linear complementarity problems. A nice feature of this approach is that the level of differentiability of the unconstrained problem is maintained. That is, the degree of differentiability of the merit function $f(x) + \mathcal{P}(x, \rho, \alpha)$ is determined by the degree of differentiability of f(x) and c(x). Another popular choice for smoothing ℓ_1 is the use of linear-quadratic approximation such as the Huber penalty function [17] which is popular in the statistics community. Variants of piecewise linear-quadratic penalty functions are explored in the context of nonlinear programming in [39, 31, 32]. We solowsky and Love [38], Kaplan [18] and Xavier [40] smooth the ℓ_1 penalty function using hyperboloid approximation techniques,

$$\sqrt{t^2 + \alpha}$$
 and $t + \sqrt{t^2 + \alpha}$,

to approximate |t| and max $\{0, t\}$ respectively. (In §4, properties of this function are also used to smooth the square-root term in the ℓ_2 norm.) Using a different smoothed variant of the ℓ_1 penalty function, Gonzaga and Castillo [11] have shown convergence for a general family of smooth approximations to the ℓ_1 exact penalty functions having the form $\mathcal{P}(x, \rho, \alpha) = \rho \alpha \sum_{i \in \mathcal{I}}^m \theta\left(\frac{c_i(x)}{\alpha}\right)$. They make only mild assumptions on the base function $\alpha \theta(t/\alpha)$ such as convexity, smoothness, and point-wise convergence to t^+ . Under the assumption that $\hat{f}_k(x, \rho_k, \alpha_k) = f(x) + \mathcal{P}(x, \rho_k, \alpha_k)$ is bounded below for each choice of ρ_k and α_k , the authors proved that for a sequence of exact minimizers $\{x_k\}$ of $\hat{f}_k(x_k, \rho_k, \alpha_k)$, any accumulation point of $\{x_k\}$ is a solution to the original nonlinear programming problem.

In §4, we describe a smooth approximation for the ℓ_2 norm. Eyster, White, and Wierwille [9] use a similar strategy for minimizing a sum of Euclidean distances of the form

$$F_w(x) = \sum_{i=1}^{K} \|x - w_i\|_2$$

in the context of solving the Euclidean Multifacility Location problem. Further properties of this function in this context are explored by Rosen and Xue [34]. Also of note is the algorithm proposed by Meng, Dang, and Yang [29] for using first and second order smoothing of the square-root exact penalty function,

$$\mathcal{P}(x,\rho) = \rho \sum_{i=1}^{m} \sqrt{|\hat{c}_i(x)|},$$

in the context of inequality constrained optimization.

The last smooth penalty function described in §4 approximates the ℓ_{∞} function and has been used in [33, 42, 26, 25]. Qin and Nguyen [33] first proposed using this smoothing in the context of nonlinear programming. Xu [42] later used this penalty function to solve finite minimax problems. Perhaps the closest work is that of Liuzzi and Lucidi [25] which develops convergence theory for the smoothed- ℓ_{∞} penalty function for nonlinear inequality constraints in the context of a particular pattern search method that also handles the linear constraints explicitly. Their analysis is similar in nature to that of [21] in that they explicitly adjust the search direction to conform with the linear constraints. A significant difference in their approach (as opposed to that used in Algorithm 1 and in [21]) is that the penalty parameter ρ and smoothing parameter α are updated after each iteration of generating set search, as opposed to only updating them after converging to a specified weak tolerance. Moreover, they use a variation of pattern search in which the step length may be increased or decreased after every function evaluation.

We also explored a pseudo-smoothing of the ℓ_1 function using dynamic scaling:

$$\mathcal{P}(x,\rho) = \sum_{i=1}^{m} \underbrace{\left(1 - \frac{\eta(x) - \hat{c}_i(x)}{\eta(x)}\right)}_{\xi_i(x)} \hat{c}_i(x).$$

Recall that $\eta(x)$ is the maximum constraint violation (4). The function $\xi_i(x) = 0$ if $\hat{c}_i(x) = 0$, and $\xi_i(x) = 1$ if $\hat{c}_i(x) = \eta(x)$, the maximum violation norm. An alternate formulation is given by

$$\mathcal{P}(x,\rho) = \sum_{\hat{c}_i(x)=\eta(x)} \eta(x) + \sum_{\hat{c}_i(x)<\eta(x)} \frac{\hat{c}_i(x)}{\eta(x)} \hat{c}_i(x).$$

Hence this function grows like ℓ_{∞} for the largest constraint violations while damping the importance of less violated constraints. This penalty function seemed effective for some of the more difficult equality constrained problems, but on average it did not perform as well as the penalty functions described in §4.

6 Conclusions

This paper focused on developing practical heuristic algorithms for solving nonlinear programming problems where the computational cost of each evaluation makes it prohibitive to perform large numbers of function evaluations. The emphasis is on algorithms that are constraint-centric; i.e., methods that quickly find and retain feasibility (within the specified tolerance) are preferred so that the method will find a feasible point within a limited number of function evaluations.

We explored a variety of penalty methods in the context of derivative-free optimization using APGSS to solve the subproblems on a parallel computer. These methods were tested on a collection of CUTEr test problems with nonlinear constraints, as described in §2. The ℓ_2^2 method has the best theoretical properties in that it is smooth; however, it requires a large number of function evaluations relative to the other penalty functions.

The exact penalty functions discussed in §3 are not smooth and so GSS may converge to a point of nondifferentiability in the subproblem solution. But numerically, the exact penalty methods successfully terminated (according to the stopping criterion specified in the appendix) on more problems than the other methods. Successful termination means, among other things, that the constraint violation is small. The final objective values were not always as good, however, as ℓ_2^2 .

The smoothed-exact penalty functions discussed in §4 required slightly more function evaluations than exact penalty methods, but still less than ℓ_2^2 . The trade-off is improved final objective values that are nearly always as accurate at ℓ_2^2 . The smoothing parameter can be adjusted to decide whether accuracy or efficiency is more important.

In conclusion, our numerical results suggest that derivative-free penalty methods are a viable method for solving nonlinear programming problems. Using a penalty function that emphasizes constraint feasibility above all yields good solutions with much less work than finding an exact KKT point.

Acknowledgements

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A Detailed numerical results

Tables 5–6 contain detailed numerical results for comparing the seven merit functions discussed in this paper. The code was run on five parallel processors (one controller plus four workers) on Sandia's Institutional Computing Cluster (ICC) with 3.06GHz Xeon processors and 2GB RAM per node. Because we were using an asynchronous algorithm to solve the linearly constrained subproblems, we ran each algorithm 5 times on each problem and averaged the results.

The following parameters were used for Algorithm 1:

- The starting point x_0 is the default value given by CUTEr if it is feasible with respect to the linear constraints. Otherwise, it is the solution to a feasibility problem with respect to the linear constraints as in [13],
- $S_{\text{max}} = 1000$,
- $T_{\rm max} = 100,000,$
- $\rho_{\rm max} = 10^8$,
- $\rho_0 = 1$,
- $\alpha_{\min} = 10^{-5}$,
- $\alpha_0 = 1$,
- $\delta^{\star} = 10^{-3}$,
- $\delta_{\min} = 10^{-6}$
- $\delta_0 = 10^{-1}$,
- $\eta^{\star} = 10^{-3}$.

Additionally, the number of outer iterations was restricted to 1000. Default values were used for APGSS, except for those parameters that are part of the algorithm; i.e., the starting point was set to the last outer iterate, the stopping tolerance for the step length was set to δ_k , and the maximum number of function evaluations was set to S_{max} .

The columns for Tables 5–6 are as follows. The first column lists the problem name and its characteristics using the notation from (1). The second column lists the best objective value found by any method that exited successfully. Note that a successful exit means that the constraints are nearly satisfied, i.e., $\eta(x^*) < \eta^* = 10^{-3}$. The remaining seven columns list averaged results for each merit function. The first number is the relative difference as compared to the best minimum achieved by any of the seven methods, i.e.,

$$\Delta f^{\star} = \frac{f(x^{\star}) - f_{\min}^{\star}}{\max\{1, |f(x^{\star})|, |f_{\min}^{\star}|\}}$$

where $f(x^*)$ denotes the best objective value obtained by the corresponding method. The second value (nf) is the number of objective/constraint function evaluations. Recall that APGSS caches both objective and constraint values and reuses them across inner and outer iterations in the same run. Thus, these counts reflect *unique* points evaluated in the parameter space.

The seven merit functions that are compared are:

- ℓ_{∞} : see (7)
- s_{∞} : see (13)
- ℓ_1 : see (5)
- s_1 : see (9)
- ℓ_2 : see (6)
- s_2 : see (11)
- ℓ_2^2 : see (3)

Altogether, of the 145 problems, 128 were solved by at least one merit function, and 98 were solved by all.

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Table 5: Detailed numerical results

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$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	HS109 / 9/6/2/18 HS11 / 2/0/1/ 0 HS111 /10/3/0/20 HS111LNP/10/3/0/ 0	F -8.5 -4.1e1 F	F/ 3e-2/ F/ F/	F 133 F F	F/ 2e-3/ F/ F/	F 204 F F	F/ F/ 3e-2/ F/ F/	F 132 F F	F/ F/ 2e-3/ 0/ F/	F 203 662 F	F/ 3e-2/ F/ F/	F 132 F F	2e-4/ F/ 7e-3/ F/ F/	F 249 F F	F/ 0/ 8e-2/1 F/	F 786 17590 F
HS14 / 2/0/1/1 I.4 3e-3/59 3e-3/64 3e-3/60 3e-3/64 3e-3/64 3e-3/64 3e-3/64 3e-3/64 3e-3/64 3e-3/64 12-3/50 12-3/50 12-3/51 10/102 HS15 / 2/0/2/3 2.5e-1 0/36 4e-5/142 0/36 6e-5/177 0/36 1e-3/343 0/202 1e-4/41 HS18 / 2/0/2/3 1.0 1e-3/43 7e-5/212 1e-3/44 6e-5/177 0/36 0/36 0/36 0/36 HS17 / 2/0/2/4 F F/F F	HS109 / 9/6/2/18 HS11 / 2/0/1/0 HS111 /10/3/0/20 HS111 /10/3/0/0 HS111 /10/0/5/3	F -8.5 -4.1e1 F 2.4e1	F/ 3e-2/ F/ F/ 1e-2/ 1	F 133 F F 1182	F/ 2e-3/ F/ F/ 3e-3/	F 204 F F 1702	F/ F/ 3e-2/ F/ F/ 2e-2/	F 132 F F 1256	F/ F/ 2e-3/ 0/ F/ 0/	F 203 662 F 1650	F/ 3e-2/ F/ F/ 1e-2/	F 132 F F 1115	2e-4/ F/ 7e-3/ F/ F/ 1e-3/	F 249 F F 2778	F/ 0/ 8e-2/1 F/ 6e-3/	F 786 17590 F 2304
HS15 / 2/0/2/1 3.1e2 1e-3/500 1e-3/512 1e-3/622 1e-3/604 1e-3/604 1e-3/500 1e-3/510 10/1027 HS16 / 2/0/2/3 2.5e-1 0/36 4e-5/142 0/36 6e-5/177 0/36 0/36 0/36 0/36 HS17 / 2/0/2/3 1.0 1e-3/43 7e-5/212 1e-3/44 6e-3/200 1e-3/43 0/202 1e-4/414 HS18 / 2/0/2/4 F F/ <f< td=""> F F/<f< td=""> F F//F F//F</f<></f<></f<></f<></f<></f<></f<></f<>	HS109 / 9/6/2/18 HS11 2/0/1/0 HS11 /10/3/0/20 HS111 /10/3/0/0 HS113 /10/0/5/3 HS12 / 2/0/1/0	F -8.5 -4.1e1 F 2.4e1 -3.0e1	F/ 3e-2/ F/ F/ 1e-2/ 1 1e-5/	F 133 F F 1182 55	F/ 2e-3/ F/ 3e-3/ 1e-5/	F 204 F F 1702 55	F/ F/ 3e-2/ F/ F/ 2e-2/ 1e-5/	F 132 F 1256 55	F/ F/ 2e-3/ 0/ F/ 0/ 1e-5/	F 203 662 F 1650 56	F/ 3e-2/ F/ F/ 1e-2/ 1e-5/	F 132 F 1115 56	2e-4/ F/ 7e-3/ F/ 1e-3/ 1e-5/	F 249 F 2778 80	F/ 0/ 8e-2/1 F/ 6e-3/ 0/	F 786 17590 F 2304 400
HS16 $2/0/2/3$ $2.5e-1$ $0/$ 36 $4e-5/$ 142 $0/$ 36 $ee-5/$ 177 $0/$ 36 $0/$ 36 HS17 $2/0/2/3$ 1.0 $1e-3/$ 43 $7e-5/$ 212 $1e-3/$ 44 $6e-3/$ 260 $1e-3/$ 43 $0/$ 202 $1e-4/$ 414 HS18 $2/0/2/4$ F F F F/ F F////> F F////////////////////////////////////	HS109 / 9/6/2/18 HS11 / 2/0/1/0 HS11 /10/3/0/20 HS111 /10/3/0/0 HS113 /10/0/5/3 HS12 / 2/0/1/0 HS13 / 2/0/1/2	F -8.5 -4.1e1 F 2.4e1 -3.0e1 8.1e-1	F/ 3e-2/ F/ F/ 1e-2/ 1 1e-5/ 3e-3/	F 133 F 1182 55 180	F/ 2e-3/ F/ 3e-3/ 1e-5/ 2e-3/	F 204 F 1702 55 195	F/ F/ 3e-2/ F/ F/ 2e-2/ 1e-5/ 3e-3/	F 132 F 1256 55 179	F/ F/ 2e-3/ 0/ F/ 0/ 1e-5/ 2e-3/	F 203 662 F 1650 56 194	F/ 3e-2/ F/ F/ 1e-2/ 1e-5/ 3e-3/	F 132 F 1115 56 179	2e-4/ F/ 7e-3/ F/ Ie-3/ 1e-5/ 2e-3/	F 249 F 2778 80 198	F/ 0/ 8e-2/1 F/ 6e-3/ 0/ 0/	F 786 17590 F 2304 400 641
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F -8.5 -4.1e1 F 2.4e1 -3.0e1 8.1e-1 1.4	F/ 3e-2/ F/ F/ 1e-2/ 1 1e-5/ 3e-3/ 3e-3/	F 133 F 1182 55 180 59	F/ 2e-3/ F/ 3e-3/ 1e-5/ 2e-3/ 3e-3/	F 204 F 1702 55 195 64	F/ F/ 3e-2/ F/ 2e-2/ 1e-5/ 3e-3/ 3e-3/	F 132 F 1256 55 179 60	F/ F/ 2e-3/ 0/ F/ 0/ 1e-5/ 2e-3/ 3e-3/	F 203 662 F 1650 56 194 64	F/ 3e-2/ F/ 1e-2/ 1e-5/ 3e-3/ 3e-3/	F 132 F 1115 56 179 59	2e-4/ F/ 7e-3/ F/ 1e-3/ 1e-5/ 2e-3/ 2e-4/	F 249 F 2778 80 198 72	F/ 0/ 8e-2/1 F/ 6e-3/ 0/ 0/ 0/	F 786 17590 F 2304 400 641 153
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F -8.5 -4.1e1 F 2.4e1 -3.0e1 8.1e-1 1.4 3.1e2	F/ 3e-2/ F/ F/ 1e-2/ 1 1e-5/ 3e-3/ 3e-3/ 1e-3/	F 133 F 1182 55 180 59 560	F/ 2e-3/ F/ 3e-3/ 1e-5/ 2e-3/ 3e-3/ 1e-3/	F 204 F 1702 55 195 64 512	F/ F/ 3e-2/ F/ F/ 2e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/	F 132 F 1256 55 179 60 622	F/ F/ 2e-3/ 0/ F/ 0/ 1e-5/ 2e-3/ 3e-3/ 1e-3/	F 203 662 F 1650 56 194 64 604	F/ 3e-2/ F/ F/ 1e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/	F 132 F 1115 56 179 59 560	2e-4/ F/ 7e-3/ F/ 1e-3/ 1e-5/ 2e-3/ 2e-4/ 1e-3/	F 249 F 2778 80 198 72 514	F/ 0/ 8e-2/1 F/ 6e-3/ 0/ 0/ 0/	F 786 17590 F 2304 400 641 153 1027
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F -8.5 -4.1e1 F 2.4e1 -3.0e1 8.1e-1 8.1e-1 1.4 3.1e2 2.5e-1	F/ 3e-2/ F/ F/ 1e-2/ 1 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/	F 133 F 1182 55 180 59 560 36	F/ 2e-3/ F/ 3e-3/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 4e-5/	F 204 F 1702 55 195 64 512 142	F/ F/ 3e-2/ F/ 2e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/	F 132 F 1256 55 179 60 622 36	F/ F/ 2e-3/ 0/ F/ 0/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 6e-5/	F 203 662 F 1650 56 194 604 177	F/ 3e-2/ F/ 1e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/	F 132 F 1115 56 179 59 560 36	2e-4/ F/ 7e-3/ F/ 1e-3/ 1e-5/ 2e-3/ 2e-4/ 1e-3/ 0/	F 249 F 2778 80 198 72 514 36	F/ 0/ 8e-2/3 F/ 6e-3/ 0/ 0/ 0/ 0/ 0/	F 786 17590 F 2304 400 641 153 1027 36
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F -8.5 -4.1e1 F 2.4e1 -3.0e1 8.1e-1 1.4 3.1e2 2.5e-1 1.0	F/ 3e-2/ F/ 1e-2/ 1 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/	F 133 F 1182 555 180 59 560 36 43	F/ 2e-3/ F/ 3e-3/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 4e-5/ 7e-5/	F 204 F 1702 55 195 64 512 142 212	F/ F/ 3e-2/ F/ 2e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/	F 132 F 1256 55 179 60 622 36 44	F/ F/ 2e-3/ 0/ F/ 0/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 6e-5/ 6e-3/	F 203 662 F 1650 56 194 64 604 177 260	F/ 3e-2/ F/ 1e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/	F 132 F 1115 566 179 59 560 366 43	2e-4/ F/ 7e-3/ F/ 1e-3/ 1e-5/ 2e-3/ 2e-4/ 1e-3/ 0/ 0/	F 249 F 2778 80 198 72 514 36 202	F/ 0/ 8e-2/2 F/ 6e-3/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 1e-4/	F 786 17590 F 2304 400 641 153 1027 36 414
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F -8.5 -4.1e1 F 2.4e1 -3.0e1 8.1e-1 1.4 3.1e2 2.5e-1 1.0 5.6	F/ 3e-2/ F/ F/ 1e-2/ 1 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/	F 133 F F 1182 55 180 59 560 36 43 59	F/ 2e-3/ F/ 3e-3/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 4e-5/ 7e-5/ 0/	F 204 F 1702 55 195 64 512 142 212 259	F/ F/ 3e-2/ F/ F/ 2e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/	F 132 F 1256 55 179 60 622 36 44 59	F/ F/ 2e-3/ 0/ F/ 0/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 6e-5/ 6e-3/ 0/	F 203 662 F 1650 56 194 64 604 177 260 59	F/ 3e-2/ F/ 1e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/	F 132 F 1115 566 179 599 560 366 43 60	2e-4/ F/ 7e-3/ F/ 1e-3/ 1e-5/ 2e-3/ 2e-4/ 1e-3/ 0/ 0/	F 249 F 2778 80 198 72 514 36 202 60	F/ 0/ 8e-2/3 F/ 6e-3/ 0/ 0/ 0/ 0/ 0/ 1e-4/ 0/	$\begin{array}{c} F \\ 786 \\ 17590 \\ F \\ 2304 \\ 400 \\ 641 \\ 153 \\ 1027 \\ 36 \\ 414 \\ 59 \end{array}$
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F -8.5 -4.1e1 F 2.4e1 -3.0e1 8.1e-1 1.4 3.1e2 2.5e-1 1.0 5.6 F	F/ 3e-2/ F/ F/ 1e-2/ 1 e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/	F 133 F F 1182 55 180 59 560 36 43 59 F 264	F/ 2e-3/ F/ 3e-3/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 4e-5/ 7e-5/ 0/ F/	F 204 F 1702 55 195 64 512 142 212 212 59 F	F/ F/ 3e-2/ F/ 2e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/	F 132 F 1256 55 179 60 622 36 44 59 F	F/ F/ 2e-3/ 0/ F/ 0/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 6e-5/ 6e-3/ 0/ F/	F 203 662 F 1650 56 194 64 604 177 260 59 F	F/ 3e-2/ F/ 1e-2/ 1e-5/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/	F 132 F 1115 56 179 59 560 366 43 60 F 263	2e-4/ F/ 7e-3/ F/ 1e-3/ 1e-5/ 2e-3/ 2e-4/ 1e-3/ 0/ 0/ 0/ F/	F 249 F 2778 80 198 72 514 36 202 60 F 265	F/ 0/ 8e-2/3 F/ 6e-3/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 1e-4/ 0/ F/	F 786 17590 F 2304 400 641 153 1027 36 414 59 F 751
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F -8.5 -4.1e1 F 2.4e1 -3.0e1 8.1e-1 1.4 3.1e2 2.5e1 1.00 5.66 F 3.8e1 1.0	F/ 3e-2/ F/ 1e-2/ 1 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 2e-3/	F 133 F F 1182 55 180 59 560 36 43 59 F 264 88	F/ 2e-3/ F/ 3e-3/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 4e-5/ 7e-5/ 0/ F/ 1e-3/ 4e-3/	F 204 F 1702 55 195 64 512 142 212 212 59 F 263 119	F/ F/ 3e-2/ F/ 2e-2/ 1e-5/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 2e-3/	F 132 F 1256 55 179 60 622 36 44 59 F 250 88	F/ F/ 2e-3/ 0/ F/ 0/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 6e-5/ 6e-3/ 0/ F/ 1e-3/ 4e-3/	F 203 662 F 1650 56 194 64 604 177 260 59 F 240 119	F/ 3e-2/ F/ 1e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 2e-3/	F 132 F 1115 56 179 59 560 36 43 60 F 263 89	2e-4/ F/ F/ F/ 1e-3/ 1e-5/ 2e-3/ 2e-4/ 1e-3/ 0/ 0/ F/ 1e-3/ 6e-4/	F 249 F 2778 80 198 72 514 36 202 60 F 265 145	F/ 0/ 8e-2/3 6e-3/ 0/ 0/ 0/ 0/ 0/ 1e-4/ 0/ F/ 0/ 0/	F 786 17590 F 2304 400 641 153 1027 36 414 59 F 751 264
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F -8.5 -4.1e1 F 2.4e1 -3.0e1 8.1e-1 1.4 3.1e2 2.5e1 1.0 5.6 F 3.8e1 1.0 9.5	F/ 3e-2/ F/ E-2/ 1e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ F/ 1e-3/ 0/ F/ 1e-3/ 5e-2/	F 133 F F 1182 555 180 599 560 366 433 599 F 264 888 69	F/ 2e-3/ F/ 3e-3/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 4e-5/ 7e-5/ 0/ F/ 1e-3/ 4e-3/ 4e-2/	F 204 F 1702 55 195 64 512 142 212 212 212 59 F 263 119 64	F/ F/ 3e-2/ F/ 2e-2/ 1e-5/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 2e-3/ 5e-2/	F 132 F 1256 55 179 60 622 36 44 59 F 250 88 70	F/ F/ 2e-3/ 0/ F/ 0/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 6e-5/ 6e-3/ 0/ F/ 1e-3/ 4e-3/ 4e-2/	F 203 662 F 1650 56 194 64 604 177 260 59 F 240 119 65	F/ 3e-2/ F/ 1e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 2e-3/ 5e-2/	F 132 F 1115 56 179 59 560 36 43 60 F 263 89 69	2e-4/ F/ F/ F/ 1e-3/ 1e-5/ 2e-3/ 2e-4/ 1e-3/ 0/ 0/ F/ 1e-3/ 6e-4/ 4e-2/	F 249 F 2778 80 198 72 514 366 202 60 F 265 145 65	F/ 0/ 8e-2/3 F/ 6e-3/ 0/ 0/ 0/ 0/ 0/ 1e-4/ 0/ F/ 0/ 0/ 0/	F 786 17590 F 2304 400 641 153 1027 36 414 59 F 751 264 71
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F -8.5 -4.1e1 F 2.4e1 1.4 3.1e2 2.5e-1 1.0 5.6 F F 3.8e1 1.0 9.5 1.5e-7	F/ 3e-2/ F/ F/ 1e-2/ 1 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 2e-3/ 2e-3/	F 133 F 1182 555 180 59 560 366 43 59 59 50 43 59 50 88 88 88 69 279	F/ 2e-3/ F/ 3e-3/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 4e-5/ 7e-5/ 0/ F/ 1e-3/ 4e-2/ 5e-2/	F 204 F 1702 55 195 64 512 142 212 212 59 F 263 119 64 313	F/ F/ 3e-2/ F/ 2e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 2e-3/ 5e-2/ 4e-2/	F 1322 F 12566 555 1799 600 6222 366 444 559 F 2500 888 700 2990	F/ F/ 2e-3/ 0/ F/ 0/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 6e-5/ 6e-3/ 0/ F/ 1e-3/ 4e-2/ 0/	F 203 662 1650 56 194 604 107 260 59 F 240 119 65 215	F/ 3e-2/ F/ 1e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 2e-3/ 2e-3/	F 132 F 1115 56 179 59 560 366 43 60 F 263 89 69 313	2e-4/ F/ F/ F/ 1e-3/ 1e-5/ 2e-3/ 2e-4/ 1e-3/ 0/ 0/ F/ 1e-3/ 6e-4/ 4e-2/ 2e-2/	F 249 F 2778 80 198 72 514 366 202 60 F 265 145 65 314	F/ 0/ 8e-2/3 F/ 6e-3/ 0/ 0/ 0/ 0/ 0/ 1e-4/ 0/ F/ 0/ 0/ 0/ 1/	F 786 7590 F 2304 400 641 153 1027 36 414 59 F 751 264 751 264 71 914
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} & F \\ -8.5 \\ -4.1e1 \\ F \\ 2.4e1 \\ -3.0e1 \\ 8.1e-1 \\ 1.4 \\ 3.1e2 \\ 2.5e-1 \\ 1.0 \\ 5.6 \\ F \\ 3.8e1 \\ 1.0 \\ 9.5 \\ 1.5e-7 \\ 4.0e-2 \end{array}$	F/ 3e-2/ F/ F/ F/ 1e-2/ 1e-5/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 0/ F/ 2e-3/ 5e-2/ 2e-3/ 3e-5/	F 133 F 1182 555 180 59 560 366 43 59 59 F 264 88 88 69 279 69	F/ 2e-3/ F/ 3e-3/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 4e-5/ 7e-5/ 0/ F/ 1e-3/ 4e-2/ 5e-2/ 3e-5/	F 204 F F 1702 55 64 512 142 212 212 59 F 263 119 64 313 69	F/ F/ F/ 2e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 2e-3/ 5e-2/ 4e-2/ 3e-5/	F 132 F F 1256 55 179 600 622 36 622 36 44 459 F 250 888 70 290 69	F/ F/ 2e-3/ 0/ F/ 0/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 6e-5/ 6e-3/ 0/ F/ 1e-3/ 4e-2/ 0/ 3e-5/	F 203 662 F 1650 56 194 604 107 260 59 F 240 119 65 215 71	F/ 3e-2/ F/ 1e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 2e-3/ 5e-2/ 2e-3/ 3e-5/	F 132 F 1115 56 179 59 560 366 43 60 F 263 89 69 313 69	2e-4/ F/ F/ 1e-3/ 1e-5/ 2e-3/ 2e-4/ 1e-3/ 0/ 0/ 0/ 0/ F/ 1e-3/ 6e-4/ 4e-2/ 2e-2/ 3e-5/	F 249 F 2778 80 198 72 514 366 202 60 60 F 265 145 65 314 69	F/ 6e-3/ 6e-3/ 0/ 0/ 0/ 0/ 1e-4/ 0/ F/ 0/ 0/ 1/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0	F 786 7590 F 2304 400 641 153 1027 36 414 59 F 751 264 751 264 71 914 417
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F -8.5 -4.1e1 F 2.4e1 -3.0e1 8.1e-1 1.4 3.1e2 2.5e-1 1.0 5.6 F 3.8e1 1.0 9.5 1.5e-7 4.0e-2 -2.3e1	F/ 3e-2/ F/ F/ Ie-2/ 1e-2/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 0/ F/ 2e-3/ 5e-2/ 2e-3/ 3e-5/ 9e-2/	F 133 F 1182 55 180 59 560 36 43 59 264 88 69 279 69 244	F/ 2e-3/ F/ 3e-3/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 4e-5/ 7e-5/ 0/ F/ 1e-3/ 4e-2/ 5e-2/ 3e-5/ 5e-3/	F 204 F F 1702 55 64 512 212 212 212 59 F 263 119 64 313 69 325	j j F/ F// F// F// F// F// Se-2// Se-3// Je-3// Je-3// 0// Je-3// 0// Je-3// 1e-3// Je-3// 2e-3// Je-3// 5e-2// Je-3// Je-5// Je-5//	F 132 F F 1256 55 179 600 622 366 44 4 59 59 59 70 2200 69 228	F/ F/ F/ P/ 0/ F/ 0/ F/ 0/ 1e-3/ 1e-3/ 6e-5/ 6e-3/ F/ 1e-3/ 4e-3/ 4e-2/ 0/ 0/	F 203 662 F 56 194 604 107 260 59 59 240 119 65 215 71 325	F/ 3e-2/ F/ 1e-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ 1e-3/ 2e-3/ 5e-2/ 2e-3/ 3e-5/ 7e-2/	$\begin{array}{c} {\rm F} \\ 132 \\ {\rm F} \\ 1115 \\ 556 \\ 179 \\ 559 \\ 560 \\ 366 \\ 43 \\ 60 \\ {\rm F} \\ 263 \\ 89 \\ 69 \\ 313 \\ 69 \\ 69 \\ 216 \end{array}$	$\begin{array}{c} 2e{\cdot}4/\\ F/\\ F/\\ F-3/\\ F/\\ F-3/\\ F-$	F 249 F 2778 80 198 72 514 366 202 60 F F 265 145 65 314 69 277	F/ 6e-3/ 6e-3/ 0/ 0/ 0/ 0/ 0/ 1e-4/ 0/ F/ 0/ 0/ 1/ 0/ 2e-2/	$\begin{array}{r} F \\ 786 \\ 786 \\ 7590 \\ F \\ 2304 \\ 400 \\ 641 \\ 153 \\ 1027 \\ 36 \\ 414 \\ 59 \\ F \\ 751 \\ 264 \\ 71 \\ 914 \\ 417 \\ 639 \end{array}$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} & F \\ -8.5 \\ -4.1e1 \\ F \\ 2.4e1 \\ -3.0e1 \\ 8.1e-1 \\ 1.4 \\ 3.1e2 \\ 2.5e-1 \\ 1.0 \\ 5.6 \\ F \\ 3.8e1 \\ 1.0 \\ 9.5 \\ 1.5e-7 \\ 4.0e-2 \\ -2.3e1 \\ 1.0 \end{array}$	F/ 3e-2/ F/ F/ Ie-2/ 1e-2/ 3e-3/ 3e-3/ 3e-3/ 0/ Ie-3/ 0/ F/ 1e-3/ 0/ F/ 2e-3/ 3e-5/ 9e-2/ 0/	F 133 F 1182 55 180 59 560 36 43 59 264 88 69 279 69 244 160	F/ 2e-3/ F/ 2e-3/ 3e-3/ 1e-5/ 2e-3/ 3e-3/ 1e-3/ 7e-5/ 0/ F/ 5e-2/ 3e-5/ 5e-3/ 0/	F 204 F F 1702 555 64 512 212 212 212 59 F 263 119 64 313 69 325 165	j F// F// F// F// F// F// Se-3// 3e-3/ 1e-3/ 0// F// F// Se-2/// 3e-5// 1e-1// 0//	F 132 F 1256 55 179 60 622 36 44 59 59 F 250 88 88 70 290 69 228 161	j F// F// F// Q O/ Ie-3/ Ie-3/ Ge-5/ Ge-3/ Ie-3// Ie-3// Ge-5/ O/ Ge-5/ Ge-5/ Ge-3/ Ge-3/ O/ Ge-5/ Ge-3/ Ge-3/ <tr< td=""><td>F 203 662 F 1650 56 64 604 177 260 59 59 59 F 240 119 65 215 71 325 165</td><td>F/ 3e-2/ F// F// F// F// 1e-3/ 0/ 1e-3/ 0/ 1e-3// 1e-3// 1e-3// 1e-3// 1e-3// 2e-3/ 5e-2// 2e-3// 7e-2// 0/</td><td>F 1322 F F 1115 566 179 599 560 366 433 600 366 433 600 899 699 3133 699 2166</td><td>$\begin{array}{c} 2e{\cdot}4'\\ F'/\\ F'_{-}3'\\ F'_{-}5'\\ F'_{-}5'\\ 2e{\cdot}4'\\ 1e{\cdot}5'\\ 2e{\cdot}4'\\ 1e{\cdot}5'\\ 2e{\cdot}4'\\ 1e{\cdot}3'\\ 1e{\cdot}5'\\ 0/\\ 0/\\ 0/\\ F'_{-}5'\\ 1e{\cdot}3'\\ 1e{\cdot}5'\\ 2e{\cdot}2'\\ 2e{\cdot}2'\\ 2e{\cdot}2'\\ 2e{\cdot}2'\\ 0/\\ 0/\\ 0/\\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$</td><td>F 249 F 2778 80 198 72 514 366 202 60 F 265 145 65 314 69 277 161</td><td>F/ F/ 0/ 8e-2/3 F/ 6e-3/ 0/ 0/ 0/ 0/ 0/ 1e-4/ 0/ F/ 0/ 0/ 0/ 1e-4/ 0/ 2e-2/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0</td><td>F 786 17590 F 2304 400 641 153 1027 36 414 59 F 751 264 71 914 417 639 161</td></tr<>	F 203 662 F 1650 56 64 604 177 260 59 59 59 F 240 119 65 215 71 325 165	F/ 3e-2/ F// F// F// F// 1e-3/ 0/ 1e-3/ 0/ 1e-3// 1e-3// 1e-3// 1e-3// 1e-3// 2e-3/ 5e-2// 2e-3// 7e-2// 0/	F 1322 F F 1115 566 179 599 560 366 433 600 366 433 600 899 699 3133 699 2166	$\begin{array}{c} 2e{\cdot}4'\\ F'/\\ F'_{-}3'\\ F'_{-}5'\\ F'_{-}5'\\ 2e{\cdot}4'\\ 1e{\cdot}5'\\ 2e{\cdot}4'\\ 1e{\cdot}5'\\ 2e{\cdot}4'\\ 1e{\cdot}3'\\ 1e{\cdot}5'\\ 0/\\ 0/\\ 0/\\ F'_{-}5'\\ 1e{\cdot}3'\\ 1e{\cdot}5'\\ 2e{\cdot}2'\\ 2e{\cdot}2'\\ 2e{\cdot}2'\\ 2e{\cdot}2'\\ 0/\\ 0/\\ 0/\\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $	F 249 F 2778 80 198 72 514 366 202 60 F 265 145 65 314 69 277 161	F/ F/ 0/ 8e-2/3 F/ 6e-3/ 0/ 0/ 0/ 0/ 0/ 1e-4/ 0/ F/ 0/ 0/ 0/ 1e-4/ 0/ 2e-2/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0	F 786 17590 F 2304 400 641 153 1027 36 414 59 F 751 264 71 914 417 639 161
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} {\rm F} \\ -8.5 \\ -4.1e1 \\ {\rm F} \\ 2.4e1 \\ -3.0e1 \\ 8.1e-1 \\ 1.4 \\ 3.1e2 \\ 2.5e-1 \\ 1.0 \\ 5.6 \\ {\rm F} \\ 3.8e1 \\ 1.0 \\ 9.5 \\ 1.5e-7 \\ 4.0e-2 \\ -2.3e1 \\ 1.0 \\ 6.0 \\ \end{array}$	F/ 3e-2/ F/ F/ 1e-2/ 1e-2/ 1e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 2e-3/ 5e-2/ 2e-3/ 3e-5/ 9e-2/ 0/ 7e-2/ 0/ 7e-3/	F 133 F F 1182 555 560 366 43 59 560 43 59 560 43 69 279 69 244 160 281	F/ 2e-3/ F/ 7e-5/ 2e-3/ 1e-3/ 2e-3/ 1e-3/ 4e-5/ 7e-5/ 7e-5/ 7e-5/ 7e-5/ 7e-5/ 7e-5/ 7e-5/ 5e-2/ 3e-5/ 5e-3/ 0/ 8e-3/	F 204 F F 1702 55 195 64 512 212 212 212 59 F 263 119 64 313 69 325 165 306		F 132 F 1256 55 179 60 622 36 44 59 59 55 59 59 59 50 88 80 70 290 69 228 161 290	i i F//F i F//F i 0/ i	F 203 662 F 1650 56 64 64 604 177 260 59 59 F 240 119 65 215 71 325 633	F//3e-2/ 3e-2//F/ F//F/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ 5e-2// 2e-3/ 3e-5/ 7e-2/ 0/ 7e-3/	F 1322 F 1115 566 1799 590 366 433 600 F F 2633 899 313 369 2166 1600 272	$\begin{array}{c} 2e{\cdot}4'\\ F'/\\ F'_{-}3'\\ F'_{-}7'\\ F'_{-}7'\\ F'_{-}7'\\ F'_{-}7'\\ F'_{-}7'\\ 2e{\cdot}3'\\ 2e{\cdot}4'\\ 1e{\cdot}3'\\ 1e{\cdot}3'\\ 0'/\\ 0'/\\ 0'/\\ 0'/\\ 0'/\\ 0'/\\ 0'/\\ 0'$	F F 2499 F 2778 800 1988 72 2514 366 2002 600 F F 2655 314 455 314 659 2777 161 300	F/ 6e-3/ 6e-3/ 6e-3/ 0/ 0/ 0/ 0/ 0/ 1e-4/ 0/ 0/ 0/ 0/ 2e-2/ 0/ 8e-4/	F 786 786 7590 F 2304 400 641 153 1027 36 414 59 F 751 264 751 264 71 914 417 639 914 417 639
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} {\rm F} \\ -8.5 \\ -4.1 {\rm e1} \\ {\rm F} \\ 2.4 {\rm e1} \\ -3.0 {\rm e1} \\ 8.1 {\rm e} {\rm -1} \\ 1.4 \\ 3.1 {\rm e2} \\ 2.5 {\rm e} {\rm -1} \\ 1.0 \\ 5.6 \\ {\rm F} \\ 3.8 {\rm e1} \\ 1.0 \\ 9.5 \\ 1.5 {\rm e} {\rm -7} \\ 4.0 {\rm e2} \\ -2.3 {\rm e1} \\ 1.0 \\ 0.6.0 \\ 1.0 \end{array}$	F/ 3e-2/ F/ F/ F/ Ie-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 0/ F/ 2e-3/ 3e-5/ 9e-2/ 0/ 7e-3/ 0/	F 133 F F 1182 555 560 366 43 59 560 43 59 560 43 69 279 69 244 160 281 27	F// 2e-3// F// F// F// 3e-3// 3e-3// 3e-3// 3e-3// 4e-5/ 0/ F// 1e-3/ 4e-2/ 5e-2// 5e-3// 0/ 8e-3// 0/	F 2044 F F 1702 555 644 5122 1422 2122 599 F F 263 1199 644 3133 69 3255 1655 3066 27	F// F// F// F// F// F// Se-2// F// Se-3// 3e-3// 0// 1e-3// 0// 1e-3// 2e-3// 2e-3// 3e-5// 1e-3// 0// 6e-3// 0// 0//	F 132 F 1256 55 179 60 622 36 44 4 59 F 59 58 8 8 8 8 8 8 8 70 250 69 228 8 161 290 69 228	F// F// 2e-3/ 0/ 7/ 2e-3/ 2e-3/ 2e-3/ 3e-3/ 7 6e-5/ 7 7 1e-3/ 7 1e-3/ 7 4e-2/ 0/ 3e-5/ 7 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/	F 203 662 F 1650 64 604 177 260 59 F F 240 119 65 215 711 325 711 325 303 27	F// 3e-2// F// F// 1e-2/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 1e-3/ 2e-3/ 2e-3// 7e-2/ 0/ 7e-3// 0/ 7e-3/	F 1322 F 1115 566 1799 590 560 433 600 F F 263 899 619 313 369 2166 1600 2722 272	$\begin{array}{c} 2e{-}4/\\ F/\\ F/\\ F/\\ F/\\ F-3/\\ 1e{-}5/\\ 2e{-}3/\\ 2e{-}4/\\ 1e{-}3/\\ 2e{-}4/\\ 1e{-}3/\\ 0//\\ 0/\\ 0/\\ 0/\\ 1e{-}3/\\ 2e{-}2/\\ 2e{-}2/\\ 2e{-}2/\\ 2e{-}2/\\ 2e{-}2/\\ 2e{-}2/\\ 2e{-}2/\\ 2e{-}2/\\ 0/\\ 1e{-}4/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0$	F F 2479 F F 2778 80 198 72 514 366 2022 60 60 F F 2655 145 65 314 69 9277 161 300 277	F// 0/ 8e-2/: F// 0/ 0/ 0// 8e-4// 0/	F 786 786 7590 F 2304 400 641 153 7027 36 414 71 914 71 914 71 914 417 639 9161 962
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} & F \\ -8.5 \\ -4.1e1 \\ F \\ 2.4e1 \\ -3.0e1 \\ 8.1e-1 \\ 1.4 \\ 3.1e2 \\ 2.5e-1 \\ 1.0 \\ 5.6 \\ F \\ 3.8e1 \\ 1.0 \\ 9.5 \\ 1.5e-7 \\ 4.0e-2 \\ -2.3e1 \\ 1.0 \\ 6.0 \\ 0 \\ 1.0 \\ -4.6 \end{array}$	F/ 3e-2/ F/ F/ Ie-2/ 1e-5/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 0/ F/ 1e-3/ 2e-3/ 3e-5/ 9e-2/ 0/ 7e-3/ 0/ 7e-3/ 0/ 1e-1/	F 133 F 55 55 55 560 36 43 59 560 36 43 59 F 264 88 88 88 88 869 279 69 244 160 281 271 39	$\begin{array}{c} F'\\ 2e-3/\\ F'\\ 3e-3/\\ F'\\ 1e-5/\\ 3e-3/\\ 3e-3/\\ 3e-3/\\ 3e-3/\\ 3e-3/\\ 1e-3/\\ 3e-3/\\ 1e-3/\\ 7e-5/\\ 7e-5/\\ 7e-5/\\ 3e-5/\\ 3e-5/\\ 3e-5/\\ 3e-5/\\ 0/\\ 8e-3/\\ 0/\\ 9e-4/\\ \end{array}$	F 2044 F F 1702 555 644 5122 1422 2122 599 F F 2633 119 644 3133 69 3255 1655 3066 277 289	F// F// F// F// F// Se-2// F// F// Se-3// 3e-3// 1e-3/ 1e-3// 1e-1//	F 132 F 1256 55 179 600 622 366 444 59 70 2900 228 161 290 27 139	F// F// F// Q Ge-3/ Ge-5/ Ge-5/ Ge-5/ Ge-5/ Ge-5/ Ge-3/ Ge-5/ Ge-5/ Ge-5/ Ge-5/ Ge-5/ O/	F 203 662 F 1650 56 194 64 604 177 260 59 F 240 119 65 215 71 325 165 303 27 242	F//3e-2/ 3e-2//3e-3/ F//1e-5/ 3e-3/3e-3/ 1e-3/ 1e-3/ 0/ 1e-3/ 2e-3/ 3e-5/ 7e-2/ 0/ 7e-3/ 0/ 7e-3/ 0/ 1e-3/	F 132 F F F F 500 500 500 500 500 500 500 60 500 60 60 60 60 60 60 60 60 60 60 60 60 6	$\begin{array}{c} 2e{-}4/\\ F/\\ F/\\ F/\\ 1e{-}3/\\ 1e{-}5/\\ 2e{-}3/\\ 2e{-}4/\\ 1e{-}3/\\ 2e{-}4/\\ 1e{-}3/\\ 0//\\ 0//\\ 0//\\ 1e{-}3/\\ 2e{-}2/\\ 2e{-}2/\\ 2e{-}2/\\ 2e{-}2/\\ 2e{-}2/\\ 2e{-}2/\\ 0//\\ 1e{-}4/\\ 0//\\ 1e{-}4/\\ 0//\\ 6e{-}2/\\ \end{array}$	F F 2479 F F 27788 722 514 366 2022 514 366 75 455 314 659 277 161 300 277 131	F// 0/ 0// 6e-3// 0//	F 786 786 7590 F 2304 400 641 153 1027 36 414 59 F F 751 264 71 914 417 639 161 1912 631 914
HS42 / / 1/10/1 1 1.4e1 2e-2/299 4e-3/408 2e-2/294 1e-3/310 2e-2/299 5e-3/368 0/1034 HS43 / 4/0/3/0 -4.4e1 2e-3/509 0/683 8e-3/378 9e-4/844 1e-3/487 3e-3/874 F/ F HS46 / 5/2/0/0 1.1e-3 4e-2/438 3e-2/621 1e-1/395 0/625 1e-1/405 F/ F 2e-2/686 HS47 / 5/3/0/0 3.4e-6 1/31915 1/7109 3e-3/598 5e-6/491 1e-2/611 F/ F 0/453 HS56 / 7/4/0/0 -3.5 7e-1/140 F/ F 7e-1/140 F/ F 7e-1/140 F/ S 9e-6/566 0/ 52 0/<53 0/<3074 HS57 / 2/0/1/2 3.1e-2 0/<55 9e-6/572 0/<53 9e-6/566 0/ 52 0/<53 0/<53 5e-2/123 8e-2/129 0/117 1e-1/132 5e-2/123 8e-2/133 8e-2/133 HS59 / 2/0/3/4 -7.7	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F -8.5 -4.1e1 F 2.4e1 1.4 3.1e2 2.5e-1 1.0 5.6 F F 3.8e1 1.0 9.5 1.5e-7 4.0e-2 -2.3e1 1.0 6.0 0.0 0.0 0.1.0 -4.6 -7.2e-1	F/ 3e-2/ F/ F/ F/ Ie-2/ 1e-5/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 0/ F/ 2e-3/ 3e-5/ 9e-2/ 0/ 7e-3/ 0/ 1e-1/ 7e-1/	F 133 F 1182 555 180 599 560 366 433 59 F 264 888 869 279 69 244 160 281 277 139 81	F// 2e-3/ F// F// F// Se-3// 3e-3// 1e-5// 3e-3// 1e-5// 3e-3// 1e-3// 1e-3// 1e-3// 1e-3// 1e-3// 1e-3// 4e-2// 5e-2// 3e-5// 5e-3// 0// 9e-4// 0/	F 2044 F 755 1955 644 5122 2122 599 F 2633 1199 644 3133 699 644 3133 3255 3066 277 2899 181	$\begin{array}{c} F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\$	F 132 F 1256 555 179 600 622 366 444 599 F 2500 888 700 2900 2900 2928 1611 2900 277 139 83	j F// F// F// 2e-3/ 0/ F// 2e-3/ 3e-3/ 3e-3/ 6e-5/ 6e-5/ 6e-3/ 0/ F// 1e-3/ 4e-2/ 0/ 3e-5/ 0/	F 203 662 F 1650 566 604 604 604 604 604 59 717 260 59 71 240 119 65 215 71 325 6165 303 303 27 242	F//3e-2/ Se-2//F/ F//F/ Se-3/3e-3/ 3e-3/3e-3/ 1e-3/1e-3/ 1e-3/2e-3/ 2e-3/2e-3/ 3e-5/7e-2/ 0/7e-3/ 0/1e-1/7e-1/	F F 1322 F F F 500 599 500 366 433 600 57 F F F F 7263 899 699 3133 699 2166 1200 2722 272 277 239 81	$\begin{array}{c} 2e{\cdot}4'\\ F'/\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'$	F F 2499 F 27788 800 1988 722 514 366 2022 600 F F 2655 1455 655 314 699 2777 1611 3000 277 1311	F// 0/ 0// 6e-3// 0// </td <td>F 786 7590 F 2304 400 641 153 3027 36 414 59 F F 751 264 771 914 417 639 161 962 277 537 1065</td>	F 786 7590 F 2304 400 641 153 3027 36 414 59 F F 751 264 771 914 417 639 161 962 277 537 1065
HS43 / 4/0/3/0 -4.4e1 2e-3/509 0/683 8e-3/378 9e-4/844 1e-3/487 3e-3/874 F/F F HS46 / 5/2/0/0 1.1e-3 4e-2/438 3e-2/621 1e-1/395 0/625 1e-1/405 F/F 2e-2/686 HS47 / 5/3/0/0 3.4e-6 1/31915 1/7109 3e-3/598 5e-6/491 1e-2/611 F/F 0/453 HS56 / 7/4/0/0 -3.5 7e-1/140 F/F 7e-1/140 F/F 7e-1/140 F/F 7e-1/140 7e-1/44967 0/3074 HS57 / 2/0/1/2 3.1e-2 0/55 9e-6/572 0/53 9e-6/566 0/52 0/53 0/53 0/53 HS59 / 2/0/3/4 -7.7 3e-2/119 0/168 8e-2/129 0/117 1e-1/132 5e-2/123 8e-2/123 8e-2/133	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F -8.5 -4.1e1 F 2.4e1 -3.0e1 8.1e-1 1.4 3.1e2 2.5e-1 1.0 5.6 F 3.8e1 1.0 9.5 1.5e-7 4.0e-2 -2.3e1 1.0 6.0 1.0 0 -4.6 -7.2e-1 -1.0	$\begin{array}{c} {\rm F}/\\ {\rm 3e-2}/\\ {\rm 3e-2}/\\ {\rm F}/\\ {\rm F}/\\ {\rm Ie-2}/\\ {\rm 1e-3}/\\ {\rm 3e-3}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 2e-3}/\\ {\rm 3e-5}/\\ {\rm 9e-2}/\\ {\rm 0}/\\ {\rm 7e-3}/\\ {\rm 0}/\\ {\rm 1e-1}/\\ {\rm 7e-1}/\\ {\rm F}/\\ \end{array}$	F 1133 F F 1182 555 560 366 43 599 F 264 888 699 279 694 244 160 281 279 139 811 F	F// 2e-3// F// F// F// Se-3// 2e-3// 3e-3// 1e-5// 0// F// 1e-3// 1e-3// <td>F 204 F 1702 555 1955 64 142 212 259 F 263 119 64 313 69 325 306 325 306 27 289 181</td> <td>$\begin{array}{c} F' \\ F'$</td> <td>F 1132 F 555 1799 600 622 366 44 599 700 2200 699 2288 1611 2900 612 330 7139 833 F</td> <td>j j F// F// F// F// Q j </td> <td>F 203 662 F 1650 566 604 604 604 604 604 604 59 71 240 119 65 215 71 325 71 325 165 303 303 27 242 180</td> <td>$\begin{array}{c} F'\\ 3e-2/\\ 3e-2/\\ F'\\ 1e-2/\\ 1e-5/\\ 1e-3/\\ 1e-3/\\ 0/\\ 1e-3/\\ 0/\\ 1e-3/\\ 0/\\ 1e-3/\\ 0/\\ 1e-3/\\ 0/\\ 7e-3/\\ 2e-3/\\ 2e-3/\\ 0/\\ 1e-1/\\ 7e-1/\\ 2e-3/\\ \end{array}$</td> <td>F 1322 F 11155 566 366 433 600 F 263 89 609 3133 609 216 6100 272 27 139 811</td> <td>$\begin{array}{c} 2e{\cdot}4'\\ F'/\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'$</td> <td>F F 2499 F F 2778 800 198 72 514 366 202 600 F 5 314 45 655 314 699 277 161 300 277 131 113</td> <td>F/ 0/ 0/ 0/ 0/ 0/ 0/ 0//</td> <td>F 2304 400 641 153 1027 36 414 59 F 751 264 417 639 161 914 417 639 914 417 639 914 2537 1065 3417</td>	F 204 F 1702 555 1955 64 142 212 259 F 263 119 64 313 69 325 306 325 306 27 289 181	$\begin{array}{c} F' \\ F' $	F 1132 F 555 1799 600 622 366 44 599 700 2200 699 2288 1611 2900 612 330 7139 833 F	j j F// F// F// F// Q j	F 203 662 F 1650 566 604 604 604 604 604 604 59 71 240 119 65 215 71 325 71 325 165 303 303 27 242 180	$\begin{array}{c} F'\\ 3e-2/\\ 3e-2/\\ F'\\ 1e-2/\\ 1e-5/\\ 1e-3/\\ 1e-3/\\ 0/\\ 1e-3/\\ 0/\\ 1e-3/\\ 0/\\ 1e-3/\\ 0/\\ 1e-3/\\ 0/\\ 7e-3/\\ 2e-3/\\ 2e-3/\\ 0/\\ 1e-1/\\ 7e-1/\\ 2e-3/\\ \end{array}$	F 1322 F 11155 566 366 433 600 F 263 89 609 3133 609 216 6100 272 27 139 811	$\begin{array}{c} 2e{\cdot}4'\\ F'/\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'\\ F'$	F F 2499 F F 2778 800 198 72 514 366 202 600 F 5 314 45 655 314 699 277 161 300 277 131 113	F/ 0/ 0/ 0/ 0/ 0/ 0/ 0//	F 2304 400 641 153 1027 36 414 59 F 751 264 417 639 161 914 417 639 914 417 639 914 2537 1065 3417
HS47 / 5/3/0/0 3.4e-6 1/31915 1/7109 3e-3/598 5e-6/491 1e-2/611 F/F Ø 453 HS56 / 7/4/0/0 -3.5 7e-1/140 F/F 7e-1/140 F/F 7e-1/140 F/F 7e-1/140 7e-1/44967 0/3074 HS57 / 2/0/1/2 3.1e-2 0/55 9e-6/572 0/53 9e-6/566 0/52 0/53 0/53 HS59 / 2/0/3/4 -7.7 3e-2/119 0/116 8e-2/129 0/117 1e-1/132 5e-2/123 8e-2/133	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} F\\ -8.5\\ -4.1e1\\ F\\ 2.4e1\\ -3.0e1\\ 8.1e-1\\ 1.4\\ 3.1e2\\ 2.5e-1\\ 1.0\\ 5.6\\ F\\ 3.8e1\\ 1.0\\ 9.5\\ 1.5e-7\\ 4.0e-2\\ -2.3e1\\ 1.0\\ 6.0\\ 1.0\\ 6.0\\ 1.0\\ -4.6\\ -7.2e-1\\ -1.0\\ -2.5e-1\\ \end{array}$	$\begin{array}{c} {\rm F}/\\ {\rm 3e-2}/\\ {\rm 3e-2}/\\ {\rm F}/\\ {\rm F}/\\ {\rm 1e-2}/\\ {\rm 1e-2}/\\ {\rm 1e-3}/\\ {\rm 3e-3}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 2e-3}/\\ {\rm 2e-3}/\\ {\rm 2e-3}/\\ {\rm 3e-5}/\\ {\rm 9e-2}/\\ {\rm 0}/\\ {\rm 7e-3}/\\ {\rm 0}/\\ {\rm 1e-1}/\\ {\rm 7e-1}/\\ {\rm F}/\\ {\rm F}/\\ {\rm F}/\\ {\rm F}/\\ {\rm F}/\\ \end{array}$	F 133 F F 55 55 560 366 43 59 560 36 43 59 560 264 43 59 560 264 43 279 264 160 281 160 281 139 81 57 57 57 57 57 57 59 560 59 59 59 59 59 59 59 59 59 59 59 59 59	F/ 2e-3/ F/ 2e-3/ 3e-3/ 1e-5/ 2e-3/ 3e-3/ 1e-5/ 0/ F 1e-3/ 4e-5/ 7e-5/ 0/ F// 3e-5/ 3e-5/ 0/ 9e-4/ 9e-4/ 9e-4/ F/ F/	F 204 F F 1702 555 64 512 212 212 212 212 212 212 213 64 313 306 64 313 305 165 306 27 289 181 1 F F	j j F//F F//F F//F F//F Se-2//F F//F Je-3//F F//F Je-3//F Je-3//F O//F Je-3//F Je-3//F Je-3//F Je-1//F Je-1//F Je-1//F Je-1//F	F 132 F 555 179 60 622 36 44 59 F 250 290 228 88 88 8 8 8 70 290 228 161 290 228 161 290 228 161 290 228 161 290 228 161 290 228 161 290 228 161 290 200 55 55 55 55 55 55 55 55 55 55 55 55 5	j j F//F/ j F//F/ j O/ j O j J	F 203 662 F 1650 194 64 604 177 260 59 F 240 119 65 215 71 325 165 303 27 242 180 1429 F	F/ 3e-2// F/ 3e-3/ 3e-3/ 1e-3/ 1e-3/ 1e-3/ 1e-3/ 1e-3/ 2e-3/ 3e-5/ 7e-2/ 0/ 7e-3// 7e-1/ 7e-1/ 7e-2/ 8e-4/	F 132 F 1115 566 366 43 60 F 263 89 313 69 216 160 272 277 139 81 118 81	$\begin{array}{c} 2e\cdot 4/\\ \hline 2e\cdot 4/\\ \hline F/\\ \hline 2e\cdot 3/\\ \hline 2e\cdot 4/\\ \hline 0/\\ 0/\\ \hline 0/\\ \hline 0/\\ \hline 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\$	F 249 2778 80 198 72 514 36 202 60 F 265 314 65 314 69 277 161 300 7 7 161 300 7 131 113 125	F/ 0/ 6e-3/ 0/ 0/ 0// 2e-2/ 0// 0// 4e-1// 0// 0// 3e-4/	F 786 786 750 F 2304 400 641 153 1027 36 414 59 F 751 264 71 914 417 639 161 914 417 639 161 914 417 537 1065 3417 965
HS56 / 7/4/0 -3.5 7e-1/ 140 F/ F 7e-1/ 140 F/ G 7e-1/ 140 7e	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} {\rm F} \\ -8.5 \\ -4.1e1 \\ {\rm F} \\ 2.4e1 \\ -3.0e1 \\ 3.1e2 \\ 2.5e-1 \\ 1.4 \\ 3.1e2 \\ 2.5e-1 \\ 1.0 \\ 5.6 \\ {\rm F} \\ 3.8e1 \\ 1.0 \\ 9.5 \\ 1.5e-7 \\ 4.0e-2 \\ -2.3e1 \\ 1.0 \\ 6.0 \\ 1.0 \\ -2.3e1 \\ 1.0 \\ -2.5e-1 \\ -1.0 \\ -2.5e-1 \\ 1.4e1 \end{array}$	$\begin{array}{c} {\rm F}/\\ {\rm 3e-2}/\\ {\rm 3e-2}/\\ {\rm F}/\\ {\rm F}/\\ {\rm 1e-2}/\\ {\rm 1e-3}/\\ {\rm 3e-3}/\\ {\rm 3e-3}/\\ {\rm 1e-3}/\\ {\rm 0}-3/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 2e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 2e-3}/\\ {\rm 3e-5}/\\ {\rm 3e-5}/\\ {\rm 3e-5}/\\ {\rm 9e-2}/\\ {\rm 0}/\\ {\rm 7e-3}/\\ {\rm 0}/\\ {\rm 1e-1}/\\ {\rm 7e-1}/\\ {\rm F}/\\ {\rm F}/\\ {\rm 2e-2}/\\ \end{array}$	F 133 F F 1182 559 560 366 43 59 F 264 43 59 F 264 43 59 79 264 43 59 279 69 244 160 281 139 881 F F F 299	- F/ 2e-3/ F/ 2e-3/ F/ 3e-3/ 2e-3/ 3e-3/ 2e-3/ 3e-3/ 2e-3/ 3e-3/ 2e-3/ 1e-5/ 2e-3/ 0/ F/ 1e-3/ 3e-5/ 5e-2/ 3e-5/ 0/ 9e-4// 0/ F/ 9e-4// F/ 4e-3/ 4e-3/	$\begin{array}{c} {\rm F} \\ 204 \\ {\rm F} \\ {\rm F} \\ {\rm F} \\ {\rm 55} \\ 55 \\ 195 \\ 64 \\ 512 \\ 142 \\ 212 \\ 212 \\ 212 \\ 212 \\ 313 \\ 59 \\ {\rm F} \\ 263 \\ 119 \\ 64 \\ 313 \\ 306 \\ 289 \\ 181 \\ 306 \\ 277 \\ 289 \\ 181 \\ {\rm F} \\ 408 \end{array}$	j j F//F/ F//F/ F//F/ F//F/ Se-2/ 1e-5/ 3e-3/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ F// 1e-3/ 2e-3/ 5e-2/ 3e-5/ 3e-5/ 0/ 6e-3/ 0/ 1e-1/ 7e-1/ F/ 0// 2e-2/	F 132 F 1256 55 179 60 622 36 44 44 55 55 55 55 55 55 55 55	F// F// F// F// Ge-3/ Je-3/	F 203 662 F 1650 56 194 604 177 260 59 F 240 119 65 215 71 325 165 303 27 242 180 1429 F 310	j j F//3e-2/ F// F//1e-2/ F// Je-3/ 3e-3/ Je-3/ 3e-3/ O/ 0/ Je-3/ 3e-3/ O/ 1e-3/ Je-3/ 3e-3/ Je-3/ 3e-3/ O/ 1e-3/ Je-3/ 3e-5/ O/ 7e-3/ O/ 7e-3/ O/ 7e-1/ Se-4/ 2e-2/	F 132 F F 560 560 560 60 F 263 89 60 60 60 216 60 216 60 2272 277 30 81 118 8432 299	$\begin{array}{c} 2e\cdot 4/\\ \hline 2e\cdot 4/\\ \hline F/\\ \hline 2e\cdot 3/\\ \hline 2e\cdot 4/\\ \hline 0/\\ \hline 0/\\ \hline 0/\\ \hline 0/\\ \hline 0/\\ \hline F/\\ \hline 1e\cdot 3/\\ \hline 0/\\ \hline 0/\\ \hline F/\\ \hline F/\\ \hline 1e\cdot 3/\\ \hline 2e\cdot 4/\\ \hline 0/\\ \hline 0/\\ \hline 6e\cdot 4/\\ \hline 0/\\ \hline 0/\\ \hline 6e\cdot 4/\\ \hline 0/\\ \hline 0/\\ \hline 0/\\ \hline 0-2e\cdot 3/\\ \hline 2e\cdot 3/\\ \hline 0/\\ 0/\\ \hline 0/\\ \hline 0/\\ \hline 0/\\ \hline 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\ 0/\\$	F 2479 F 2778 80 198 72 514 36 202 202 60 F 265 314 45 65 314 9 9 9 777 161 300 277 131 113 3125 41680 368	F//0/ Se-2/: F//0/ Se-2/: F//0/ O//0/ Se-4//0/ O//0/ 3e-4//0/ O//0/ Se-4//0/	F 786 7590 F 2304 400 641 153 1027 36 414 414 71 264 71 914 417 639 161 962 277 537 1065 3417 3417
HS57 / 2/0/1/2 3.1e-2 0/ 55 9e-6/ 572 0/ 53 9e-6/ 56 0/ 52 0/ 53 0/ 53 HS59 / 2/0/3/4 -7.7 3e-2/ 119 0/ 116 8e-2/ 129 0/ 117 1e-1/ 132 5e-2/ 123 8e-2/ 130	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} {\rm F} \\ -8.5 \\ -4.1{\rm e1} \\ {\rm F} \\ 2.4{\rm e1} \\ -3.0{\rm e1} \\ 8.1{\rm e}{\rm -1} \\ 1.4 \\ 3.1{\rm e2} \\ 2.5{\rm e}{\rm -1} \\ 1.0 \\ 5.5 \\ {\rm F} \\ 3.8{\rm e1} \\ 1.0 \\ 9.5 \\ 1.5{\rm e}{\rm -7} \\ 4.0{\rm e2} \\ -2.3{\rm e1} \\ 1.0 \\ 6.0 \\ 1.0 \\ -6.0 \\ 1.0 \\ -6.0 \\ 1.0 \\ -2.5{\rm e}{\rm -1} \\ 1.4{\rm e1} \\ -4.4{\rm e1} \\ \end{array}$	F/ 3e-2/ F/ F/ F/ Ie-2/ 1e-5/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ 1e-3/ 0/ 1e-3/ 0/ F/ 1e-3/ 0/ 5e-2/ 2e-3/ 3e-2/ 9e-2/ 0/ 1e-1/ 7e-1/ F/ 2e-2/ 2e-3/	F 133 F F 55 180 59 560 366 433 59 F 264 88 69 279 69 244 160 281 277 139 81 F F 55 55 55 55 55 55 55 55	F//2e-3/ F//F/ 2e-3//F/ F//F/ 3e-3//1e-5/ 3e-3//1e-5/ 3e-3//1e-5/ 0/ F//1e-3//5e-3/ 0/ 9e-4//0/ F//1e-3/ 9e-4//0/ 9/ <t< td=""><td>F 1702 55 195 64 512 142 212 212 25 9 F F 263 313 69 64 313 325 306 227 289 181 F F 7 889 181 F F 408</td><td>j F// F// F// F// F// Se-2/ F// Se-3/ 3e-3/ 0// 1e-3/ 0// 1e-3// 0// 1e-3// 2e-3/ 5e-2/ 1e-1/ 1e-1/ 6e-3// 0/ 7e-1// F// 0/ 2e-2/ 8e-3//</td><td>F 132 F 1256 55 179 60 622 36 44 4 4 4 59 F 2250 88 70 290 290 298 161 290 27 139 83 8 F 430 297 139 8 7 7 7 7 7 7 7 7 7 7 7 7 7</td><td>j j F//F/ j F//F/ j Ge-3/ j Je-3/ j Ge-3// j Ge-3// j Ge-3// j Ge-3// j Ge-3// j O/ j O/ j O/ j O/ j Ge-3// j Ge</td><td>F 203 662 F 1650 56 194 604 177 260 59 F 240 119 65 215 71 325 303 227 242 180 1429 F 310 844</td><td>F//3e-2/ Se-2//3e-3/ Garage Garage Garage<</td><td>F 132 F F F F 560 366 43 60 89 69 313 69 313 69 216 160 272 277 139 81 118 432 299 487</td><td>$\begin{array}{c} 2e{-}4/\\ \hline P/\\ \hline$</td><td>F 22788 80 1988 72 514 366 2022 60 60 7 7 265 314 65 314 65 314 69 9 277 161 300 277 161 300 277 131 113 300 277 41680 368 874</td><td>F/ 0/</td><td>F 786 786 7590 F 2304 400 641 153 1027 36 414 417 751 264 71 914 417 639 161 962 277 537 1065 3417 965 1034 F</td></t<>	F 1702 55 195 64 512 142 212 212 25 9 F F 263 313 69 64 313 325 306 227 289 181 F F 7 889 181 F F 408	j F// F// F// F// F// Se-2/ F// Se-3/ 3e-3/ 0// 1e-3/ 0// 1e-3// 0// 1e-3// 2e-3/ 5e-2/ 1e-1/ 1e-1/ 6e-3// 0/ 7e-1// F// 0/ 2e-2/ 8e-3//	F 132 F 1256 55 179 60 622 36 44 4 4 4 59 F 2250 88 70 290 290 298 161 290 27 139 83 8 F 430 297 139 8 7 7 7 7 7 7 7 7 7 7 7 7 7	j j F//F/ j F//F/ j Ge-3/ j Je-3/ j Ge-3// j Ge-3// j Ge-3// j Ge-3// j Ge-3// j O/ j O/ j O/ j O/ j Ge-3// j Ge	F 203 662 F 1650 56 194 604 177 260 59 F 240 119 65 215 71 325 303 227 242 180 1429 F 310 844	F//3e-2/ Se-2//3e-3/ Garage Garage Garage<	F 132 F F F F 560 366 43 60 89 69 313 69 313 69 216 160 272 277 139 81 118 432 299 487	$\begin{array}{c} 2e{-}4/\\ \hline P/\\ \hline $	F 22788 80 1988 72 514 366 2022 60 60 7 7 265 314 65 314 65 314 69 9 277 161 300 277 161 300 277 131 113 300 277 41680 368 874	F/ 0/	F 786 786 7590 F 2304 400 641 153 1027 36 414 417 751 264 71 914 417 639 161 962 277 537 1065 3417 965 1034 F
HS59 / 2/0/3/ 4 -7.7 3e-2/ 119 0/ 116 8e-2/ 129 0/ 117 1e-1/ 132 5e-2/ 123 8e-2/ 130	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} {\rm F} \\ -8.5 \\ -4.1{\rm e1} \\ {\rm F} \\ 2.4{\rm e1} \\ -3.0{\rm e1} \\ 8.1{\rm e}{-1} \\ 1.4 \\ 3.1{\rm e2} \\ 2.5{\rm e}{-1} \\ 1.0 \\ 5.6 \\ {\rm F} \\ 3.8{\rm e1} \\ 1.0 \\ 9.5 \\ 1.5{\rm e}{-7} \\ 4.0{\rm e2} \\ -2.3{\rm e1} \\ 1.0 \\ 0.6.0 \\ 1.0 \\ -4.6 \\ -7.2{\rm e}{-1} \\ 1.0 \\ -2.5{\rm e}{-1} \\ 1.4{\rm e1} \\ 1.1{\rm e}{-3} \end{array}$	$\begin{array}{c} {\rm F}/\\ {\rm 3e-2}/\\ {\rm 3e-2}/\\ {\rm 1e-2}/\\ {\rm 1e-3}/\\ {\rm 3e-3}/\\ {\rm 1e-3}/\\ {\rm 3e-3}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 2e-3}/\\ {\rm 2e-3}/\\ {\rm 3e-5}/\\ {\rm 9e-2}/\\ {\rm 2e-3}/\\ {\rm 0}/\\ {\rm 1e-1}/\\ {\rm 7e-1}/\\ {\rm F}/\\ {\rm F}/\\ {\rm F}/\\ {\rm 2e-2}/\\ {\rm 2e-3}/\\ {\rm 4e-2}/\\ \end{array}$	F 1133 F F 1182 55 560 366 433 59 560 366 433 59 F 264 88 69 279 69 244 160 281 277 139 81 F F 299 509 438	F/ 2e-3/ F/ 2e-3/ F/ F/ F/ Se-3/ 3e-3/ 3e-3/ 3e-3/ 3e-3/ 3e-3/ 7e-5/ 0/ F/ 1e-3/ 4e-2/ 5e-2/ 0/ 8e-3/ 0/ 9e-4/ 0/ F/ 4e-3/ 0/ Se-3/	F 204 F F 55 195 64 512 142 212 212 259 F F 263 3119 64 313 325 306 27 289 181 165 306 27 7289 181 F F F 408 863 3621	j F// F// F// F// F// Se-2// Je-3// 3e-3// 0// Je-3// 0// Je-3// 0// Je-3// 0// Je-3// Je-1// Je-1//	F 132 F F 1256 55 179 60 622 36 44 459 F 250 88 70 290 298 161 290 27 139 83 F F 139 83 45 45 290 291 202 203 203 203 203 203 203 203	F// F// F// F// P//	F 203 662 56 1650 56 194 604 177 260 59 F F 240 119 65 215 711 325 303 27 242 180 165 303 27 242 242 180 F 5 303 27 80 242 80 80 80 80 80 80 80 80 80 80 80 80 80	F/ 3e-2/ F/ Se-3/ 1e-3/ 1e-3/ 0/ 1e-3/ 0/ 1e-3/ 1e-3/ 1e-3/ 0/ 1e-3/ 1e-3/ 1e-3/ 1e-3/ 7e-2/ 2e-3/ 3e-5/ 7e-2/ 0/ 7e-3/ 0/ 7e-1/ 2e-2/ 1e-3/ 1e-3/	$\begin{array}{c} {\rm F} \\ 132 \\ {\rm F} \\ 1115 \\ 56 \\ 179 \\ 59 \\ 59 \\ 560 \\ 36 \\ 43 \\ 36 \\ 00 \\ 313 \\ 89 \\ 69 \\ 313 \\ 89 \\ 216 \\ 160 \\ 272 \\ 27 \\ 139 \\ 81 \\ 118 \\ 81 \\ 118 \\ 432 \\ 299 \\ 487 \\ 405 \end{array}$	2e-4/ F// F// F// F// F// F// F// F	F 249 F F 2778 80 198 72 514 36 202 60 F F 265 314 65 314 65 314 69 277 161 300 277 161 310 277 161 300 277 54 65 314 88 87 4 165 54 72 80 72 72 80 72 72 80 72 72 80 72 72 72 72 80 72 72 72 80 72 72 72 72 72 72 72 72 72 72 72 72 72	F// 0/ 0// <	F 786 786 787 780 787 780 787 780 787 780 780 780
	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} {\rm F} \\ -8.5 \\ -4.1e1 \\ {\rm F} \\ 2.4e1 \\ -3.0e1 \\ 8.1e-1 \\ 1.4 \\ 3.1e2 \\ 2.5e-1 \\ 1.0 \\ 5.6 \\ {\rm F} \\ 3.8e1 \\ 1.0 \\ 9.5 \\ 1.5e-7 \\ 4.0e-2 \\ -2.3e1 \\ 1.0 \\ 9.5 \\ 1.5e-7 \\ 4.0e-2 \\ -2.3e1 \\ 1.0 \\ -4.0e-2 \\ -2.5e-1 \\ 1.0 \\ -4.6 \\ -7.2e-1 \\ -1.0 \\ -2.5e-1 \\ 1.4e1 \\ 1.4e3 \\ 3.4e-6 \end{array}$	F/ 3e-2/ Se-2/ F/ Ie-2/ 1e-5/ 3e-3/ 1e-3/ 0/ 1e-3/ 0/ 1e-3/ 0/ 1e-3/ 0/ F/ 2e-3/ 3e-5/ 9e-2/ 0/ 7e-3/ 0/ 7e-1/ F/ F/ F/ 2e-2/ 2e-3/ 3e-5/ 9e-2/ 0/ 1e-1/ 7e-1/ F/ F/ 2e-2/ 2e-3/ 4e-2/ 1/31	F 1133 F 55 55 560 36 43 59 560 36 43 59 264 88 69 279 69 244 160 281 277 139 81 F F 299 438 1915	F// 2e-3/ F// F// F// 3e-3// 3e-3// 3e-3// 3e-3// 3e-3// 3e-3// 3e-3// 3e-3// 1e-5/ 3e-3// 7e-5/ 7e-7/ 7e-7/ 7e-7/ 7e-7/ 7e-7/ 7e-7/ 7e-7/ 7e-7/<	F 204 F F 1702 55 64 512 142 212 212 212 59 64 313 64 313 69 325 165 289 181 F F F F F F F F 80 306 27 289 181 F F 7 289 181 7 7 289 181 7 7 289 181 7 7 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8	F// F// F// F// F// Se-2// Se-3// 3e-3// 3e-3// 1e-3/ 1e-3// 1e-1// F// 0// 0// 1e-1// F// 8e-3// 1e-1// 3e-3//	F 1256 55 179 60 622 36 44 459 F 250 88 70 290 69 228 161 290 69 228 161 290 69 228 70 290 69 228 70 290 69 228 70 290 69 228 70 290 69 228 70 290 69 228 70 290 69 228 70 290 69 228 70 290 69 228 70 290 69 228 70 290 69 228 70 290 69 290 290 290 290 290 290 290 29	F// F// F// P// 0/ 0 0 1e-3/ 3e-3/ 1e-3/ 6e-5/ 6e-5/ 6e-3/ 1e-3/ 1e-3/ 4e-2/ 0/ 3e-5/ 0/ 0/ 0/ 0/ 0/ 0/ 2e-3/ 0/ <td< td=""><td>F 1650 1662 56 194 644 177 260 199 F 240 119 65 215 711 325 165 303 303 27 242 180 1429 F 1429 F 142 142 142 142 145 145 145 145 145 145 145 145</td><td>F// Se-2// F// F// F// Se-3/ 3e-3/ 1e-3/ 2e-3/ 3e-5/ 7e-2/ 2e-3/ 0/ 7e-3/ 0/ 7e-1/ 2e-2/ 2e-2/ 1e-3/ 1e-3/</td><td>$\begin{array}{c} {\rm F} \\ 132 \\ {\rm F} \\ {\rm 759} \\ 599 \\ 590 \\ 360 \\ 433 \\ 600 \\ 313 \\ 609 \\ 2160 \\ 619 \\ 2160 \\ 611 \\ \\ \end{array}$</td><td>$\begin{array}{c} 2e{-}4/\\ F/\\ F/\\ F/\\ 1e{-}3/\\ 1e{-}5/\\ 2e{-}3/\\ 2e{-}4/\\ 1e{-}3/\\ 2e{-}4/\\ 1e{-}3/\\ 2e{-}4/\\ 1e{-}3/\\ 2e{-}4/\\ 1e{-}3/\\ 2e{-}2/\\ 2e{-}3/\\ 3e{-}3/\\ 3e{-}3/\\ 3e{-}3/\\ F/\\ F/\\ F/\\ F/\\ \end{array}$</td><td>F F 2479 F 7778 198 72 514 36 202 202 60 60 F F 265 314 65 314 69 277 161 300 277 131 113 125 41680 368 874 F F</td><td>F/ 0/ 0/ 0// <tr< td=""><td>F 786 786 780 F 2304 400 641 153 1027 36 414 59 F F 751 264 71 914 417 639 161 962 27 537 1065 3417 965 3417 965 1034 F 686 453</td></tr<></td></td<>	F 1650 1662 56 194 644 177 260 199 F 240 119 65 215 711 325 165 303 303 27 242 180 1429 F 1429 F 142 142 142 142 145 145 145 145 145 145 145 145	F// Se-2// F// F// F// Se-3/ 3e-3/ 1e-3/ 2e-3/ 3e-5/ 7e-2/ 2e-3/ 0/ 7e-3/ 0/ 7e-1/ 2e-2/ 2e-2/ 1e-3/ 1e-3/	$\begin{array}{c} {\rm F} \\ 132 \\ {\rm F} \\ {\rm 759} \\ 599 \\ 590 \\ 360 \\ 433 \\ 600 \\ 313 \\ 609 \\ 2160 \\ 619 \\ 2160 \\ 611 \\ \\ \end{array}$	$\begin{array}{c} 2e{-}4/\\ F/\\ F/\\ F/\\ 1e{-}3/\\ 1e{-}5/\\ 2e{-}3/\\ 2e{-}4/\\ 1e{-}3/\\ 2e{-}4/\\ 1e{-}3/\\ 2e{-}4/\\ 1e{-}3/\\ 2e{-}4/\\ 1e{-}3/\\ 2e{-}2/\\ 2e{-}3/\\ 3e{-}3/\\ 3e{-}3/\\ 3e{-}3/\\ F/\\ F/\\ F/\\ F/\\ \end{array}$	F F 2479 F 7778 198 72 514 36 202 202 60 60 F F 265 314 65 314 69 277 161 300 277 131 113 125 41680 368 874 F F	F/ 0/ 0/ 0// <tr< td=""><td>F 786 786 780 F 2304 400 641 153 1027 36 414 59 F F 751 264 71 914 417 639 161 962 27 537 1065 3417 965 3417 965 1034 F 686 453</td></tr<>	F 786 786 780 F 2304 400 641 153 1027 36 414 59 F F 751 264 71 914 417 639 161 962 27 537 1065 3417 965 3417 965 1034 F 686 453
HS6 / 2/1/0/ 0 4.5 8e-2/ 204 8e-2/ 205 0/ 207 8e-2/ 204 8e-2/ 206	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} {\rm F} \\ -8.5 \\ -4.1e1 \\ {\rm F} \\ 2.4e1 \\ -3.0e1 \\ 8.1e-1 \\ 1.4 \\ 3.1e2 \\ 2.5e-1 \\ 1.0 \\ 5.6 \\ {\rm F} \\ 3.8e1 \\ 1.0 \\ 9.5 \\ 1.5e-7 \\ 4.0e-2 \\ -2.3e1 \\ 1.0 \\ 9.5 \\ 1.5e-7 \\ 4.0e-2 \\ -2.3e1 \\ 1.0 \\ 0.0 \\ -0.25e-1 \\ 1.4e1 \\ -1.0 \\ -2.5e-1 \\ 1.1e-3 \\ 3.4e-6 \\ -3.5 \\ \end{array}$	F/ 3e-2/ F/ F/ F/ Ie-3/ 0/ 1e-3/ 0/ 1e-3/ 0/ 1e-3/ 0/ 1e-3/ 0/ 1e-3/ 0/ F/ 2e-3/ 3e-5/ 9e-2/ 0/ 7e-3/ 0/ 1e-1/ 7e-1/ F/ 2e-3/ 4e-2/ 2e-3/ 0/ 1e-1/ 7e-1/ F/ 2e-3/ 4e-2/ 1/31 7e-1/ 0/	F 1133 F 55 180 59 560 36 43 59 F 264 88 69 279 69 244 160 281 27 139 81 F 299 509 438 1915 140	F// 2e-3/ F/ F// F// 3e-3// 3e-3// 3e-3// 3e-3// 3e-3// 1e-5// 3e-3// 1e-3// 1e-3// 1e-3// 1e-3// 4e-2// 5e-2// 3e-5// 5e-3// 0// 9e-4// 9e-4// F// 6// 6// 7	F 204 F F 1702 55 64 512 142 212 212 212 212 203 7 64 313 69 325 306 64 313 69 325 306 64 165 306 64 17 7 89 181 F F F 64 305 64 64 313 69 325 5 7 80 64 64 313 69 325 7 80 64 64 313 69 325 7 7 80 80 80 80 80 80 80 80 80 80 80 80 80	j F// F// F// F// Se-2/ F// F// Se-3/ 3e-3/ 3e-3/ 1e-3/ 1e-3/ 1e-3/ 1e-3/ 1e-3/ 1e-3/ 3e-3/ 1e-3/ 1e-3/ 1e-3/ 1e-3/ 1e-1/ 0/ 2e-2/ 1e-1/ 3e-3/ 3e-3/	F 11256 555 1799 600 622 366 444 599 7F 5250 888 700 2900 699 2288 161 2900 2900 277 1399 833 F F 4300 2940 2950 2970 378 833 5988 140	F// F// F// P// 0/ 1e-5/ 3e-3/ 3e-3/ 6e-5/ 6e-5/ 6e-5/ 6e-5/ 6e-5/ 1e-3/ 4e-3/ 0/ 3e-5/ 0/ <	F 1650 1662 F 1650 194 644 1077 260 199 F 240 119 65 215 71 325 165 303 303 27 242 180 1429 F 310 844 625 491 F	F// 3e-2// F// F// 1e-2// 3e-3/ 3e-3/ 1e-3// 1e-3/ 1e-3/ 1e-3/ 0// F/- 2e-3/ 3e-5/ 7e-2// 0// 7e-1/ 2e-3// 1e-1// 1e-3/ 1e-1/ 1e-3/	F F 1132 F F F 500 500 500 500 500 500 709 500 709 203 809 203 809 204 609 202 202 207 207 207 207 207 207 81 118 81 118 81 81 81 81 81 80 60 9 205 9 9 205 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	$\begin{array}{c} 2e\cdot 4/\\ \hline 2e\cdot 4/\\ \hline F/\\ \hline 2e\cdot 3/\\ \hline 2e\cdot 4/\\ \hline 0/\\ \hline 0/\\ \hline 0/\\ \hline 0/\\ \hline 0/\\ \hline 0/\\ \hline F/\\ \hline 2e\cdot 4/\\ \hline 2e\cdot 2/\\ \hline 2e\cdot 2e\cdot 2/\\ \hline 2e\cdot 2e\cdot 2/\\ \hline 2e\cdot 2e\cdot 2e\cdot 2e\cdot 2e\cdot 2e\cdot 2e\cdot 2e\cdot 2e\cdot 2e\cdot$	F F 2479 F 2778 80 72 514 36 202 202 60 60 F F 5 45 314 69 277 161 300 277 161 300 277 131 113 125 41680 874 F F F	F/ 0/ 0/ 0/ 0/ 0/ 0//	F 786 7590 F 2304 400 1027 36 414 59 751 264 71 914 417 639 161 962 3417 965 1034 F 1034 F 686 453 3074
	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} {\rm F} \\ -8.5 \\ -4.1e1 \\ {\rm F} \\ 2.4e1 \\ -3.0e1 \\ 1.4 \\ 3.1e2 \\ 2.5e-1 \\ 1.4 \\ 3.1e2 \\ 2.5e-1 \\ 1.0 \\ 5.6 \\ {\rm F} \\ 3.8e1 \\ 1.0 \\ 9.5 \\ 1.5e-7 \\ 4.0e-2 \\ -2.3e1 \\ 1.0 \\ 6.0 \\ 1.0 \\ -2.3e1 \\ 1.0 \\ 6.0 \\ 1.0 \\ -2.3e1 \\ 1.4 \\ 1.1e \\ 3.4e-6 \\ -3.5 \\ 3.1e-2 \\ -7.7 \\ \end{array}$	$\begin{array}{c} {\rm F}/\\ {\rm 3e-2}/\\ {\rm 3e-2}/\\ {\rm F}/\\ {\rm F}/\\ {\rm 1e-2}/\\ {\rm 1e-3}/\\ {\rm 3e-3}/\\ {\rm 3e-3}/\\ {\rm 1e-3}/\\ {\rm 0}-3/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 0}/\\ {\rm 1e-3}/\\ {\rm 2e-3}/\\ {\rm 3e-5}/\\ {\rm 2e-3}/\\ {\rm 3e-5}/\\ {\rm 0}/\\ {\rm 1e-1}/\\ {\rm 7e-1}/\\ {\rm F}/\\ {\rm F}/\\ {\rm 2e-2}/\\ {\rm 2e-3}/\\ {\rm 4e-2}/\\ {\rm 1/31}\\ {\rm 7e-1}/\\ {\rm 0}/\\ {\rm 3e-2}/\\ \end{array}$	$\begin{array}{c} {\rm F} \\ 133 \\ {\rm F} \\ {\rm F} \\ 1182 \\ 55 \\ 55 \\ 55 \\ 55 \\ 59 \\ 560 \\ 36 \\ 43 \\ 59 \\ 59 \\ 59 \\ 69 \\ 279 \\ 264 \\ 888 \\ 69 \\ 279 \\ 264 \\ 160 \\ 281 \\ 160 \\ 281 \\ 160 \\ 281 \\ 160 \\ 281 \\ 139 \\ 279 \\ 244 \\ 160 \\ 281 \\ 139 \\ 509 \\ 438 \\ 1015 \\ 509 \\ 438 \\ 1015 \\ 55 \\ 140 \\ 55 \\ 119 \\ \end{array}$	F/ 2e-3/ F/ 2e-3/ F/ Se-3/ 2e-3/ 3e-3/ 3e-3/ 3e-3/ 3e-3/ 3e-3/ 3e-3/ 0/ 5e-2/ 5e-3/ 0/ 9e-4// 9/ F/ F/ 9e-4/ 9e-4/ 9e-4/ 9e-4/ 9e-6/	F 204 F F 55 195 55 195 59 7 202 195 59 F 263 119 64 313 306 27 289 181 306 27 289 181 F F F 408 683 621 F F 572 116	$\begin{array}{c} & - & - \\ & - & - \\ & - & - \\ & - & - \\ & - & -$	F 132 F 1256 5 179 60 622 36 44 5 7 250 88 70 290 290 228 161 290 228 161 290 27 139 83 7 F 430 294 378 395 598	j F// F// F// Ge-3/ Je-3/ Ge-3/ Je-3/ Ge-5/ Ge-3// Ge-3// Ge-3// Ge/3/	$\begin{array}{r} {\rm F} \\ 203 \\ 662 \\ {\rm f} \\ 662 \\ {\rm f} \\ 56 \\ 194 \\ 604 \\ 177 \\ 260 \\ {\rm f} \\ 59 \\ {\rm F} \\ 240 \\ 119 \\ 65 \\ 215 \\ {\rm f} \\ 240 \\ 119 \\ 65 \\ 215 \\ {\rm f} \\ 303 \\ 27 \\ 242 \\ 130 \\ {\rm f} $	F/ 3e-2/ F/ Se-3/ 3e-3/ 3e-3/ 0/ 1e-3/ 3e-3/ 0/ 1e-3/ 0/ 1e-3/ 0/ 1e-3/ 0/ 1e-3/ 2e-3/ 5e-2/ 0/ 7e-3/ 0/ 7e-1/ 2e-3/ 1e-1//	$\begin{array}{c} {\rm F} \\ 132 \\ {\rm F} \\ {\rm F} \\ {\rm F} \\ {\rm 560} \\ 179 \\ 59 \\ 59 \\ 560 \\ 43 \\ 60 \\ {\rm F} \\ 263 \\ 89 \\ 69 \\ 69 \\ 61 \\ 160 \\ 272 \\ 277 \\ 139 \\ 81 \\ 118 \\ 432 \\ 299 \\ 81 \\ 118 \\ 432 \\ 299 \\ 487 \\ 611 \\ 140 \\ 52 \\ 132 \\ \end{array}$	$\begin{array}{c} 2e\cdot 4/\\ \hline 2e\cdot 4/\\ \hline F/\\ \hline \hline F/\\ \hline F/\\ \hline F/\\ \hline F/\\ \hline F/\\ \hline F$	F 22788 27788 80 198 72 514 366 2022 600 F 265 314 45 65 314 45 65 314 300 277 161 300 277 161 300 277 131 113 113 125 41680 368 874 44967 53 3123	F/ 0/ 8e-2/: F/ 0/ 0/ 0/ 0/ 0/ 0/ 0//	F 786 7750 F 2304 400 153 1027 36 414 417 639 161 962 277 537 1065 3417 965 1034 F 686 453 3074 53 130

Table 6: Detailed numerical results

D1	olom Det-	Post	D	2	ρ.	a :	0_	0	ℓ_2^2
	olem Data $n/m_e/m_i/p$	Best f*	$\frac{\ell_{\infty}}{\Delta f^{\star} / nf}$	$\frac{s_{\infty}}{\Delta f^{\star} / nf}$	$\frac{\ell_1}{\Delta f^* / nf}$	$\frac{s_1}{\Delta f^* / nf}$	ℓ_2 $\Delta f^* / nf$	$\frac{s_2}{\Delta f^* / nf}$	$\frac{\ell_2^2}{\Delta f^* / nf}$
Name/ HS60	$\frac{n/m_e/m_i/p}{/3/1/0/6}$	1.4e1	$\frac{\Delta f^{*} / nf}{0/401}$	$\frac{\Delta f^{*}}{2e-1}$ / $\frac{nf}{444}$	$\frac{\Delta f^{*} / nf}{2e-1/446}$	$\frac{\Delta f^{*} / nf}{2e-1/444}$	$\frac{\Delta f^{*} / nf}{3e-1/512}$	$\Delta f^{*} / nf$ 2e-1/ 442	$\frac{\Delta f'' / nf}{7e-1/766}$
HS60 HS61	$\frac{/3/1/0}{/3/2/0/0}$	-1.4e1	0/ 401 4e-3/ 88	2e-1/ 444 6e-3/ 413	2e-1/ 446 4e-3/ 90	2e-1/ 444 7e-4/ 450	3e-1/ 512 4e-3/ 88	2e-1/ 442 0/ 376	2e-4/ 836
			,	,	,	,	1	,	1
HS63	$\frac{3}{1}/0$ 4	9.6e2	5e-4/ 177	0/ 205 E/ E	5e-4/ 185	5e-4/171	5e-4/ 186	2e-4/ 206	2e-4/ 459
HS64	$\frac{3}{0}/1$ 3	6.3e3	6e-4/2722	F/ F	6e-4/2755	F/ F	6e-4/ 2729	6e-4/ 2700	0/17169
HS65	/3/0/1/ 6	9.7e-1	2e-1/ 183	2e-2/ 233	2e-1/ 185	2e-2/ 232	2e-1/ 189	2e-1/ 188	0/ 431
HS66	/3/0/2/ 6	5.3e-1	4e-2/ 100	6e-3/ 639	4e-2/ 100	4e-2/ 138	4e-2/ 99	4e-2/ 139	0/ 422
HS68	/4/2/0/ 8	-3.7e-1	8e-4/ 195	8e-5/ 452	8e-4/ 201	8e-5/ 457	8e-4/ 192	8e-4/ 195	0/ 650
HS69	/4/2/0/ 8	-9.5e2	F/ F	F/ F	1e-3/ 624	0/ 724	2e-3/ 758	2e-3/ 759	F/ F
HS7	/2/1/0/ 0	-1.7	2e-2/ 91	2e-2/ 133	2e-2/ 91	1e-2/ 160	2e-2/ 91	2e-2/ 149	0/ 197
HS70	/4/0/1/ 8	1.9e-1	4e-6/ 181	7e-6/ 184	7e-6/ 185	0/ 175	0/ 176	4e-6/ 180	1e-5/ 189
HS71	/4/1/1/ 8	1.7e1	7e-2/ 352	7e-2/ 186	9e-2/ 328	2e-1/ 465	6e-2/ 344	2e-2/ 302	0/ 566
HS72	/4/0/2/ 8	6.9e2	5e-2/ 738	6e-2/ 715	6e-2/ 790	6e-2/ 778	3e-3/ 626	3e-3/ 626	0/ 2873
HS73	/4/0/1/ 6	3.0e1	0/ 204	5e-6/ 196	1e-4/ 169	5e-5/ 180	8e-5/ 171	3e-3/ 224	5e-4/ 373
HS74	/4/3/0/ 10	5.1e3	F/ F	F/ F	F/ F	F/ F	F/ F	F/ F	0/ 1258
HS75	/4/3/0/ 10	5.2e3	F/ F	F/ F	F/ F	F/ F	0/ 1482	F/ F	F/ F
HS77	/5/2/0/ 0	8.4e-1	3e-1/511	0/1073	6e-1/492	3e-1/ 904	9e-2/530	9e-2/ 555	2e-1/ 1519
HS78	/5/3/0/ 0	-2.8	F/ F	F/ F	9e-2/ 829	0/ 991	2e-1/ 921	9e-2/ 960	4e-1/1058
HS79	/5/3/0/ 0	9.0e-2	4e-1/774	0/ 743	9e-1/511	1e-1/ 986	5e-1/681	1e-1/ 815	1e-1/ 946
HS8	/2/2/0/ 0	-1.0	0/ 182	F/ F	F/ F	F/ F	0/ 279	0/ 277	0/ 243
HS80	/5/3/0/ 10	9.7e-2	0/1133	4e-2/1007	3e-1/ 916	3e-1/1127	1e-1/ 1316	4e-2/ 1253	3e-2/ 1072
HS81	/5/3/0/ 10	7.0e-2	1/1259	F/ F	9e-1/1150	F/ F	9e-1/ 1696	9e-1/ 1596	0/ 1018
HS83	/5/0/6/ 10	-3.1e4	9e-3/ 445	9e-3/ 444	2e-4/ 204	2e-4/ 205	3e-6/ 216	3e-6/ 208	0/ 2122
HS84	/5/0/6/ 10	-5.2e6	1e-1/1209	1e-1/1205	1e-1/ 881	1e-1/ 857	2e-1/ 699	2e-1/ 695	0/ 683
HS87	/6/4/0/ 12	F	F/ F	F/ F	F/ F	F/ F	F/ F	F/ F	F/ F
HS88	/2/0/1/ 0	1.1	4e-2/ 455	5e-2/ 528	5e-2/ 431	5e-2/ 540	4e-2/ 457	5e-2/ 543	0/ 1278
HS89	/3/0/1/ 0	1.1	5e-2/ 640	5e-2/ 679	5e-2/ 666	5e-2/ 699	5e-2/ 662	5e-2/ 680	0/ 1862
HS90	/4/0/1/ 0	1.1	5e-2/ 920	5e-2/ 930	5e-2/ 903	5e-2/ 994	5e-2/ 867	5e-2/ 984	0/ 2516
HS91	/5/0/1/ 0	1.1	5e-2/1052	5e-2/1277	5e-2/1059	5e-2/1337	5e-2/ 1133	5e-2/ 1226	0/ 3094
HS92	/6/0/1/ 0	1.1	5e-2/1418	5e-2/1492	4e-2/1274	5e-2/1554	5e-2/ 1280	5e-2/ 1587	0/ 3676
HS93	/6/0/2/ 6	F	F/ F	F/ F	F/ F	F/ F	F/ F	F/ F	F/ F
HS95	/6/0/4/ 12	1.6e-2	0/ 101	1e-4/ 327	0/ 101	1e-4/ 328	0/ 101	2e-1/ 101	0/ 102
HS96	/6/0/4/ 12	1.6e-2	0/ 101	1e-4/ 328	0/ 101	1e-4/ 329	0/ 101	0/ 100	0/ 101
HS97	/6/0/4/ 12	4.1	1e-3/ 184	0/ 177	1e-3/ 184	0/ 177	0/ 185	1e-3/ 438	2e-4/ 840
HS98	/6/0/4/ 12	4.1	0/ 185	0/ 176	0/ 185	0/ 175	0/ 184	1e-3/ 499	
						0/ 1/3	0/ 184	1e-3/ 499	
HS99	/7/2/0/ 14	F	F/ F	F/ F	F/ F	F/ F	F/ F	F/ F	F/ F
HS99 HYPCIR	/7/2/0/ 14 /2/2/0/ 0	F 0.0	F/ F F/ F	F/ F 0/ 254	,	,	,	'	,
HYPCIR			,	,	F/ F	F/ F	F/ F	F/ F	F/ F
HYPCIR KIWCRES	/2/2/0/ 0	0.0	F/ F	0/ 254	F/ F 0/ 234	F/ F 0/ 223	F/ F 0/ 228	F/ F 0/ 245	F/ F 0/ 235
HYPCIR KIWCRES	/2/2/0/ 0 C/3/0/2/ 0 L/6/6/0/ 15	0.0 -9.8e-4	F/ F 1e-3/ 78	0/ 254 5e-3/ 363	F/ F 0/ 234 1e-3/ 78	F/ F 0/ 223 8e-3/ 360	F/ F 0/ 228 1e-3/ 78	F/ F 0/ 245 0/ 364	F/ F 0/ 235 3e-4/ 485
HYPCIR KIWCRES LEWISPO LOOTSMA	/2/2/0/ 0 C/3/0/2/ 0 L/6/6/0/ 15	0.0 -9.8e-4 1.1	F/ F 1e-3/ 78 3e-5/ 350	0/ 254 5e-3/ 363 3e-5/ 358	F/ F 0/ 234 1e-3/ 78 0/ 338	F/ F 0/ 223 8e-3/ 360 2e-5/ 336	F/ F 0/ 228 1e-3/ 78 1e-4/ 349	F/ F 0/ 245 0/ 364 2e-4/ 342	F/ F 0/ 235 3e-4/ 485 1e-4/ 354
HYPCIR KIWCRES LEWISPO LOOTSMA	/2/2/0/ 0 GC/3/0/2/ 0 DL/6/6/0/ 15 A/3/0/2/ 4	0.0 -9.8e-4 1.1 1.4	F/ F 1e-3/ 78 3e-5/ 350 5e-1/ 50	0/ 254 5e-3/ 363 3e-5/ 358 5e-1/ 50	F/ F 0/ 234 1e-3/ 78 0/ 338 5e-1/ 50	F/ F 0/ 223 8e-3/ 360 2e-5/ 336 5e-1/ 50	F/ F 0/ 228 1e-3/ 78 1e-4/ 349 5e-1/ 50	F/ F 0/ 245 0/ 364 2e-4/ 342 0/ 178	F/ F 0/ 235 3e-4/ 485 1e-4/ 354 5e-1/ 50
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO	/2/2/0/ 0 c/3/0/2/ 0 bL/6/6/0/ 15 a/3/0/2/ 4 bC/5/0/0/ 10 /3/0/6/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2	F/ F 1e-3/ 78 3e-5/ 350 5e-1/ 50 0/ 99	0/ 254 5e-3/ 363 3e-5/ 358 5e-1/ 50 0/ 101	F/ F 0/ 234 1e-3/ 78 0/ 338 5e-1/ 50 0/ 101	F/ F 0/ 223 8e-3/ 360 2e-5/ 336 5e-1/ 50 0/ 102	F/ F 0/ 228 1e-3/ 78 1e-4/ 349 5e-1/ 50 0/ 102	F/ F 0/ 245 0/ 364 2e-4/ 342 0/ 178 0/ 100	F/ F 0/ 235 3e-4/ 485 1e-4/ 354 5e-1/ 50 0/ 103
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN	/2/2/0/ 0 ic/3/0/2/ 0 iL/6/6/0/ 15 i/3/0/2/ 4 ic/5/0/0/ 10 /3/0/6/ 0 i/3/0/1/ 1	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1	F/ F 1e-3/ 78 3e-5/ 350 5e-1/ 50 0/ 99 4e-1/ 65	0/ 254 5e-3/ 363 3e-5/ 358 5e-1/ 50 0/ 101 6e-3/ 459	F/ F 0/ 234 1e-3/ 78 0/ 338 5e-1/ 50 0/ 101 4e-1/ 65	F/ F 0/ 223 8e-3/ 360 2e-5/ 336 5e-1/ 50 0/ 102 9e-3/ 444	F/ F 0/ 228 1e-3/ 78 1e-4/ 349 5e-1/ 50 0/ 102 4e-1/ 65	F/ F 0/ 245 0/ 364 2e-4/ 342 0/ 178 0/ 100 3e-4/ 612	$\begin{array}{c c} F / & F \\ 0 / & 235 \\ \hline 3e-4 / & 485 \\ \hline 1e-4 / & 354 \\ \hline 5e-1 / & 50 \\ 0 / & 103 \\ \hline 0 / & 619 \end{array}$
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1	/2/2/0/ 0 dc/3/0/2/ 0 dc/6/6/0/ 15 d/3/0/2/ 4 dc/5/0/0/ 10 /3/0/6/ 0 ./3/0/1/ 1 d/3/0/3/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4	F/ F 1e-3/ 78 3e-5/ 350 5e-1/ 50 0/ 99 4e-1/ 65 3e-3/ 252	0/ 254 5e-3/ 363 3e-5/ 358 5e-1/ 50 0/ 101 6e-3/ 459 3e-3/ 344	F/ F 0/ 234 1e-3/ 78 0/ 338 5e-1/ 50 0/ 101 4e-1/ 65 3e-3/ 242	F/ F 0/ 223 8e-3/ 360 2e-5/ 336 5e-1/ 50 0/ 102 9e-3/ 444 3e-3/ 343	F/ F 0/ 228 1e-3/ 78 1e-4/ 349 5e-1/ 50 0/ 102 4e-1/ 65 3e-3/ 239	F/ F 0/ 245 0/ 364 2e-4/ 342 0/ 178 0/ 100 3e-4/ 612 4e-3/ 315	$\begin{array}{c c} F & F \\ 0 & 235 \\ \hline 3e-4 & 485 \\ \hline 1e-4 & 354 \\ \hline 5e-1 & 50 \\ 0 & 103 \\ \hline 0 & 619 \\ \hline 0 & 938 \end{array}$
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA2	/2/2/0/ 0 d2/3/0/2/ 0 d2/3/0/2/ 0 d2/3/0/2/ 4 d2/5/0/0/ 10 /3/0/6/ 0 ./3/0/1/ 1 d2/3/0/3/ 0 d3/0/3/ 0 d2/2/1/0/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.2	F/ F 1e-3/ 78 3e-5/ 350 5e-1/ 50 0/ 99 4e-1/ 65 3e-3/ 252 5e-1/ 164	0/ 254 5e-3/ 363 3e-5/ 358 5e-1/ 50 0/ 101 6e-3/ 459 3e-3/ 344 4e-2/ 711	F/ F 0/ 234 1e-3/ 78 0/ 338 5e-1/ 50 0/ 101 4e-1/ 65 3e-3/ 242 2e-1/ 118	F/ F 0/ 223 8e-3/ 360 2e-5/ 336 5e-1/ 50 0/ 102 9e-3/ 444 3e-3/ 343 0/ 413	F/ F 0/ 228 1e-3/ 78 1e-4/ 349 5e-1/ 50 0/ 102 4e-1/ 65 3e-3/ 239 2e-5/ 118	F/ F 0/ 245 0/ 364 2e-4/ 342 0/ 178 0/ 100 3e-4/ 612 4e-3/ 315 3e-2/ 402	$\begin{array}{c c} F / & F \\ \hline 0 / & 235 \\ \hline 3e-4 / & 485 \\ \hline 1e-4 / & 354 \\ \hline 5e-1 / & 50 \\ \hline 0 / & 103 \\ \hline 0 / & 619 \\ \hline 0 / & 938 \\ \hline 4e-2 / & 571 \\ \end{array}$
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA2 MARATOS MATRIX2	/2/2/0/ 0 3C/3/0/2/ 0 L/6/6/0/ 15 3/3/0/2/ 4 DC/5/0/0/ 10 /3/0/6/ 0 ./3/0/1/ 1 2/3/0/3/ 0 3/2/1/0/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.2 -1.0	F/ F 1e-3/ 78 3e-5/ 350 5e-1/ 50 0/ 99 4e-1/ 65 3e-3/ 252 5e-1/ 164 3e-2/ 88	0/ 254 5e-3/ 363 3e-5/ 358 5e-1/ 50 0/ 101 6e-3/ 459 3e-3/ 344 4e-2/ 711 3e-2/ 135	$\begin{array}{c c} F & F \\ \hline F & 7 \\ \hline 0 & 234 \\ \hline 1e-3 & 78 \\ \hline 0 & 338 \\ \hline 5e-1 & 50 \\ \hline 0 & 101 \\ \hline 4e-1 & 65 \\ \hline 3e-3 & 242 \\ \hline 2e-1 & 118 \\ \hline 3e-2 & 89 \\ \end{array}$	F/ F 0/ 223 8e-3/ 360 2e-5/ 336 5e-1/ 50 0/ 102 9e-3/ 444 3e-3/ 343 0/ 413 2e-2/ 137	F/ F 0/ 228 1e-3/ 78 1e-4/ 349 5e-1/ 50 0/ 102 4e-1/ 65 3e-3/ 239 2e-5/ 118 3e-2/ 89	F/ F 0/ 245 0/ 364 2e-4/ 342 0/ 178 0/ 100 3e-4/ 612 4e-3/ 315 3e-2/ 402 1e-3/ 168	$\begin{array}{c c} F & F \\ \hline 0 / & 235 \\ \hline 3e-4 / & 485 \\ \hline 1e-4 / & 354 \\ \hline 5e-1 / & 50 \\ \hline 0 / & 103 \\ \hline 0 / & 619 \\ \hline 0 / & 938 \\ \hline 4e-2 / & 571 \\ \hline 0 / & 199 \\ \end{array}$
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN	2/2/0/ 0 2/2/0/ 0 2/3/0/2/ 0 1/6/6/0/ 15 3/3/0/2/ 4 2/3/0/6/ 0 3/0/6/ 0 3/3/0/1/ 1 2/3/0/3/ 0 2/3/0/3/ 0 2/2/1/0/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.2 -1.0 0.0	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0/ 254 5e-3/ 363 3e-5/ 358 5e-1/ 50 0/ 101 6e-3/ 459 3e-3/ 344 4e-2/ 711 3e-2/ 135 0/ 100	F/ F 0/ 234 1e-3/ 78 0/ 338 5e-1/ 50 0/ 101 4e-1/ 65 3e-3/ 242 2e-1/ 118 3e-2/ 89 0/ 100	$\begin{array}{c cccc} F/ & F \\ 0/ & 223 \\ 8e-3/ & 360 \\ 2e-5/ & 336 \\ 5e-1/ & 50 \\ 0/ & 102 \\ 9e-3/ & 444 \\ 3e-3/ & 343 \\ 0/ & 413 \\ 2e-2/ & 137 \\ 0/ & 100 \end{array}$	F/ F 0/ 228 1e-3/ 78 1e-4/ 349 5e-1/ 50 0/ 102 4e-1/ 65 3e-3/ 239 2e-5/ 118 3e-2/ 89 0/ 100	F/ F 0/ 245 0/ 364 2e-4/ 342 0/ 178 0/ 100 3e-4/ 612 4e-3/ 315 3e-2/ 402 1e-3/ 168 0/ 100	F/ F 0/ 235 3e-4/ 485 1e-4/ 354 5e-1/ 50 0/ 103 0/ 619 0/ 938 4e-2/ 571 0/ 199 0/ 100
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN MIFFLIN	/2/2/0/ 0 /2/2/0/ 0 /3/0/2/ 0 //3/0/2/ 4 //3/0/2/ 4 //3/0/2/ 4 //3/0/2/ 4 //3/0/6/ 0 //3/0/6/ 0 //3/0/1/ 1 //3/0/3/ 0 //2/1/0/ 0 //2/1/0/ 0 //2/1/0/ 4	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.2 -1.0 0.0 -1.0	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0/ 254 5e-3/ 363 3e-5/ 358 5e-1/ 50 0/ 101 6e-3/ 459 3e-3/ 344 4e-2/ 711 3e-2/ 135 0/ 100 2e-4/ 146	F/ F 0/ 234 1e-3/ 78 0/ 338 5e-1/ 50 0/ 101 4e-1/ 65 3e-3/ 242 2e-1/ 118 3e-2/ 89 0/ 100 2e-1/ 72	$\begin{array}{c cccc} F/ & F \\ 0/ & 223 \\ 8e-3/ & 360 \\ 2e-5/ & 336 \\ 5e-1/ & 50 \\ 0/ & 102 \\ 9e-3/ & 444 \\ 3e-3/ & 343 \\ 0/ & 413 \\ 2e-2/ & 137 \\ 0/ & 100 \\ 3e-4/ & 164 \\ \end{array}$	F/ F 0/ 228 1e-3/ 78 1e-4/ 349 5e-1/ 50 0/ 102 4e-1/ 65 3e-3/ 239 2e-5/ 118 3e-2/ 89 0/ 100 2e-1/ 70	F/ F 0/ 245 0/ 364 2e-4/ 342 0/ 178 0/ 100 3e-4/ 612 4e-3/ 315 3e-2/ 402 1e-3/ 168 0/ 100 2e-4/ 334	F/ F 0/ 235 3e-4/ 485 1e-4/ 354 5e-1/ 50 0/ 103 0/ 619 0/ 938 4e-2/ 571 0/ 199 0/ 100 0/ 477
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN MIFFLIN	/2/2/0/ 0 /2/2/0/ 0 dc/3/0/2/ 0 dc/5/0/0 15 d/3/0/2/ 4 dc/5/0/0 10 /3/0/6/ 0 /3/0/1/ 1 2/3/0/1/ 1 2/3/0/2/ 0 2/2/1/0/ 0 2/2/1/0/ 0 2/2/0/2/ 4 1/3/0/1/ 1 1/2/3/0/2/ 0 db/3/0/2/ 2	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.2 -1.0 0.0 -1.0 -1.0	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/ & 254 \\ 5e-3/ & 363 \\ 3e-5/ & 358 \\ 5e-1/ & 50 \\ 0/ & 101 \\ 6e-3/ & 459 \\ 3e-3/ & 344 \\ 4e-2/ & 711 \\ 3e-2/ & 135 \\ 0/ & 100 \\ 2e-4/ & 146 \\ 3e-3/ & 329 \\ \end{array}$	F/ F 0/ 234 1e-3/ 78 0/ 338 5e-1/ 50 0/ 101 4e-1/ 65 3e-3/ 242 2e-1/ 118 3e-2/ 89 0/ 100 2e-1/ 72 8e-1/ 79	F/ F 0/ 223 8e-3/ 360 2e-5/ 336 5e-1/ 50 0/ 102 9e-3/ 444 3e-3/ 343 0/ 413 2e-2/ 137 0/ 100 3e-4/ 164 3e-3/ 308 4e-2/1088	F/ F 0/ 228 le-3/ 78 le-4/ 349 5e-1/ 50 0/ 102 4e-1/ 65 3e-3/ 239 2e-5/ 118 3e-2/ 89 0/ 100 2e-1/ 70 8e-1/ 79	F/ F 0/ 245 0/ 364 2e-4/ 342 0/ 178 0/ 100 3e-2/ 402 1e-3/ 168 0/ 100 2e-4/ 334 2e-4/ 334	F/ F 0/ 235 3e-4/ 485 1e-4/ 354 5e-1/ 50 0/ 103 0/ 619 0/ 938 4e-2/ 571 0/ 199 0/ 100 0/ 477 0/ 620
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MARELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN MIFFLIN MIFFLIN	/2/2/0/ 0 /2/2/0/ 0 /2/2/0/ 0 /2/2/2/ 0 /2/2/2/ 15 /3/0/2/ 4 /2/2/0/ 10 /3/0/6/ 0 /3/0/1/ 1 2/3/0/3/ 0 2/2/1/0/ 0 2/2/1/0/ 0 2/2/1/0/ 1 12/3/0/2/ 4 13/0/1/ 1 12/3/0/2/ 0 /////2/2/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.2 -1.0 0.0 -1.0 -9.0e-15	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/ & 254 \\ \hline 5e-3/ & 363 \\ \hline 3e-5/ & 358 \\ \hline 5e-1/ & 50 \\ 0/ & 101 \\ \hline 6e-3/ & 459 \\ \hline 3e-3/ & 344 \\ \hline 4e-2/ & 711 \\ \hline 3e-2/ & 135 \\ 0/ & 100 \\ \hline 2e-4/ & 146 \\ \hline 3e-3/ & 329 \\ \hline 4e-2/1105 \\ \end{array}$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F/ F 0/ 228 1e-3/ 78 1e-4/ 349 5e-1/ 50 0/ 102 4e-1/ 65 3e-3/ 239 2e-5/ 118 3e-2/ 89 0/ 100 2e-1/ 70 8e-1/ 79 1/ 159	$\begin{array}{c cccc} F & F \\ 0 & 245 \\ 0 & 364 \\ 2e-4 & 342 \\ 0 & 178 \\ 0 & 100 \\ 3e-4 & 612 \\ 4e-3 & 315 \\ 3e-2 & 402 \\ 1e-3 & 168 \\ 0 & 100 \\ 2e-4 & 334 \\ 2e-4 & 582 \\ 1 & 160 \\ \end{array}$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN MIFFLIN MIFFLIN MINMAXR MWRIGHT	2/2/0/ 0 2/2/0/ 0 2/3/0/2/ 0 2/3/0/2/ 0 2/3/0/2/ 4 2/3/0/1/ 1 2/3/0/3/ 0 2/2/1/0/ 0 2/2/1/0/ 0 2/2/1/0/ 0 2/2/1/0/ 1 2/3/0/2/ 2 2/3/0/2/ 2 2/3/0/2/ 2 2/3/0/2/ 2	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.2 -1.0 0.0 0 0.0 0 -1.0 -9.0e-15 1.3	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/ & 254 \\ \hline 5e-3/ & 363 \\ \hline 3e-5/ & 358 \\ \hline 5e-1/ & 50 \\ 0/ & 101 \\ \hline 6e-3/ & 459 \\ \hline 3e-3/ & 344 \\ \hline 4e-2/ & 711 \\ \hline 3e-2/ & 135 \\ 0/ & 100 \\ \hline 2e-4/ & 146 \\ \hline 3e-3/ & 329 \\ \hline 4e-2/1105 \\ 0/1378 \end{array}$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F/ F 0/ 228 1e-3/ 78 1e-4/ 349 5e-1/ 50 0/ 102 4e-1/ 65 3e-3/ 239 2e-5/ 118 3e-2/ 89 0/ 100 2e-1/ 70 8e-1/ 79 1/ 159 1/20577 1/20577	F/ F 0/ 245 0/ 364 2e-4/ 342 0/ 178 0/ 100 3e-4/ 612 4e-3/ 315 3e-2/ 402 1e-3/ 168 0/ 100 2e-4/ 582 1/ 160 1/26200 1/26200	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA2 MARATOS MARATOS MATRIX2 MIFFLIN MIFFLIN MINFLIN MIFFLIN PFIT1	/2/2/0/ 0 /2/2/0/ 0 ic/3/0/2/ 0 ic/6/6/0/ 15 i/3/0/2/ 4 ic/5/0// 10 /3/0/6/ 0 /3/0/6/ 0 /3/0/1/ 1 2/3/0/3/ 0 2/2/1/0/ 0 2/2/1/0/ 0 2/3/0/2/ 4 i/3/0/1/ 1 i/3/0/2/ 4 i/3/0/2/ 0 i/3/3/0/2/ 0 i/3/3/0/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.2 -1.0 0.0 -1.0 -1.0 -9.0e-15 1.3 F	F/ F le-3/ 78 3e-5/ 350 5e-1/ 50 0/ 99 4e-1/ 65 3e-3/ 252 5e-1/ 164 3e-2/ 88 0/ 100 2e-1/ 71 8e-1/ 79 1/ 160 2e-1/ 785 F/ F	0/ 254 5e-3/ 363 3e-5/ 358 5e-1/ 50 0/ 101 6e-3/ 459 3e-3/ 344 4e-2/ 711 3e-2/ 135 0/ 100 2e-4/ 146 3e-3/ 329 4e-2/1105 0/1378 F/ F	F/ F 0/ 234 1e-3/ 78 0/ 338 5e-1/ 50 0/ 101 4e-1/ 65 3e-3/ 242 2e-1/ 118 3e-2/ 89 0/ 100 2e-1/ 72 8e-1/ 79 1/ 160 5e-1/ 850 F/ F	F/ F 0/223 8e-3/360 2e-5/336 5e-1/50 0/102 9e-3/44 3e-3/343 0/413 2e-2/137 0/100 3e-4/164 3e-3/308 4e-2/1088 4e-2/1216 F/F F	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN MIFFLIN MIFFLIN MIFFLIN PFIT1 PFIT2	2/2/0/ 0 2/2/0/ 0 2/3/0/2/ 0 2/3/0/2/ 4 2/3/0/2/ 4 2/3/0/2/ 4 2/3/0/1/ 1 2/3/0/3/ 0 2/2/1/0/ 0 2/6/0/2/ 4 2/3/0/2/ 4 2/3/0/2/ 0 2/3/0/2/ 2 2/5/3/0/ 0 3/3/0/ 0 3/3/0/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e1 -1.4 7.2 -1.0 0.0 -1.0 -1.0 -9.0e-15 1.3 F F	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/&254\\ \overline{5e-3}/&363\\ \overline{3e-5}/&358\\ \overline{5e-1}/&50\\ 0/&101\\ \overline{6e-3}/&459\\ \overline{3e-3}/&344\\ 4e-2/&711\\ \overline{3e-2}/&135\\ 0/&100\\ 2e-4/&146\\ \overline{3e-3}/&329\\ 4e-2/&1105\\ 0/&1378\\ \overline{F}/&\overline{F}\\ \overline{F}/&\overline{F}\end{array}$	F/ F 0/ 234 1e-3/ 78 0/ 338 5e-1/ 50 0/ 101 4e-1/ 65 3e-3/ 242 2e-1/ 118 3e-2/ 89 0/ 100 2e-1/ 72 8e-1/ 79 8e-1/ 79 5e-1/ 850 F/ F F/ F	$\begin{array}{c cccc} F/&F\\ \hline F/&F\\ 0/&223\\ 8e-3/&360\\ 2e-5/&336\\ 5e-1/&50\\ 0/&102\\ 9e-3/&444\\ 3e-3/&444\\ 3e-3/&441\\ 3e-3/&413\\ 2e-2/&137\\ 0/&100\\ 3e-4/&164\\ 3e-3/&308\\ 4e-2/&1088\\ 4e-2/&1088\\ 4e-2/&1216\\ F/&F\\ F/&F\\ F/&F\\ F/&F\\ \end{array}$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F/ F 0/ 245 0/ 364 2e-4/ 342 0/ 100 3e-4/ 612 4e-3/ 315 3e-2/ 402 1e-3/ 168 0/ 100 2e-4/ 334 2e-4/ 582 1/ 160 1/26200 F/ F/ F F/ F	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA1 MAKELA2 MIFFLIN MIFFLIN MIFFLIN MINMAXR MWRIGHT PFIT1 PFIT1 PFIT3	/2/2/0/ 0 /2/2/0/ 0 /2/2/0/ 0 /2/2/0/ 0 /2/2/2/ 0 /2/2/2/ 4 /2/2/0/ 15 /3/0/2/ 4 /2/2/0/ 0 /3/0/1/ 1 2/3/0/2/ 4 /2/1/0/ 0 2/2/1/0/ 0 2/2/1/0/ 0 2/3/0/2/ 4 11/3/0/1/ 1 12/3/0/2/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.0 -0.0 -1.0 -1.0 -9.0e-15 1.3 F F	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/&254\\ \overline{5e-3}/&363\\ \overline{3e-5}/&358\\ \overline{5e-1}/&50\\ 0/&101\\ \overline{6e-3}/&459\\ 3e-3/&459\\ \overline{3e-3}/&344\\ 4e-2/&711\\ \overline{3e-2}/&135\\ 0/&100\\ 2e-4/&146\\ \overline{3e-3}/&329\\ 4e-2/1105\\ 0/&1378\\ \overline{F}/&\overline{F}\\ $	$\begin{array}{c cccc} F & F \\ \hline F & F \\ 0 & 234 \\ 1e-3 & 78 \\ 0 & 338 \\ 5e-1 & 50 \\ 0 & 101 \\ 4e-1 & 65 \\ 3e-3 & 242 \\ 2e-1 & 118 \\ 3e-2 & 89 \\ 0 & 100 \\ 2e-1 & 72 \\ 8e-1 & 79 \\ 0 & 100 \\ 2e-1 & 72 \\ 8e-1 & 79 \\ 1 & 160 \\ 5e-1 & 850 \\ F & F \\ F & F$	$\begin{array}{c cccc} F/ & F\\ 0/ & 223\\ 8e-3/ & 360\\ 2e-5/ & 336\\ 5e-1/ & 50\\ 0/ & 102\\ 9e-3/ & 444\\ 3e-3/ & 443\\ 0/ & 413\\ 2e-2/ & 137\\ 0/ & 100\\ 3e-4/ & 164\\ 3e-3/ & 308\\ 4e-2/ & 108\\ 4e-2/ & 108\\ 4e-2/ & 1216\\ F/ & F\\ F/ $	F/ F 0/ 228 1e-3/ 78 1e-4/ 349 5e-1/ 50 0/ 102 3e-3/ 239 2e-5/ 118 3e-2/ 89 0/ 100 2e-1/ 70 8e-1/ 79 1/20577 F/ F/ F F/ F F/ F	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN MIFFLIN MIFFLIN MIFFLIN FPFIT1 PFIT1 PFIT3 PFIT4	/2/2/0/ 0 /2/2/0/ 0 /3/0/2/ 0 //3/0/2/ 4 /2/2/0/ 15 /3/0/2/ 4 /2/2/0/ 0 /3/0/2/ 4 /3/0/2/ 4 /3/0/1/ 1 2/3/0/3/ 0 3/2/1/0/ 0 2/2/0/2/ 4 1/3/0/1/ 1 1/2/3/0/2/ 0 B/3/0/2/ 2 /5/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.22 -1.0 0.00 -1.0 -9.0e-15 1.3 F F F F F	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/&254\\ \hline 5e-3/&363\\ \hline 3e-5/&358\\ \hline 5e-1/&50\\ 0/&101\\ \hline 6e-3/&459\\ \hline 3e-3/&344\\ \hline 4e-2/&113\\ \hline 3e-2/&135\\ 0/&100\\ \hline 2e-4/&146\\ \hline 3e-3/&329\\ \hline 4e-2/&1105\\ \hline 0/&1378\\ \hline F/&F\\ \hline \end{array}$	$\begin{array}{c cccc} F & F \\ F & F \\ 0 & 234 \\ 1e-3 & 78 \\ 0 & 338 \\ 5e-1 & 50 \\ 0 & 101 \\ 4e-1 & 55 \\ 3e-3 & 242 \\ 2e-1 & 118 \\ 3e-2 & 89 \\ 0 & 100 \\ 2e-1 & 72 \\ 8e-1 & 79 \\ 1 & 160 \\ 5e-1 & 850 \\ F & F \\ F$	$\begin{array}{c cccc} F/&F\\ \hline F/&F\\ 0/&223\\ \hline 8e-3/&360\\ \hline 2e-5/&336\\ \hline 5e-1/&50\\ 0/&102\\ 9e-3/&444\\ \hline 3e-3/&343\\ 0/&413\\ \hline 2e-2/&137\\ 0/&100\\ \hline 3e-4/&164\\ \hline 3e-3/&308\\ \hline 4e-2/&1216\\ \hline F/&F\\ \hline F/&F\\ \hline F/&F\\ \hline F/&F\\ \hline F/&F\\ \hline 4e-3/&872\\ \end{array}$	F/ F 0/ 228 1e-3/ 78 1e-4/ 349 5e-1/ 50 0/ 102 4e-1/ 55 3e-3/ 239 2e-5/ 118 3e-2/ 89 0/ 100 2e-1/ 70 8e-1/ 79 1/ 159 1/20577 F F/ F F/ F F/ F F/ F F/ F F/ F	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN MIFFLIN MIFFLIN MWRIGHT PFIT1 PFIT2 PFIT3 PFIT4 POLAK1	/2/2/0/ 0 /2/2/0/ 0 /2/2/0/ 0 /2/2/2/ 0 /2/2/2/ 0 /2/2/2/ 4 /2/2/2/ 4 /2/2/0/ 0 /3/0/2/ 4 /3/0/3/ 0 /3/0/3/ 0 2/2/10/ 0 2/2/10/ 0 2/2/0/2/ 4 11/3/0/1/ 1 12/3/0/2/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.2 -2 -2 -1.0 0.00 -1.0 -9.0e-15 1.3 F F F F F F F F	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/ & 254 \\ \hline 5e-3/ & 363 \\ \hline 3e-5/ & 358 \\ \hline 5e-1/ & 50 \\ 0/ & 101 \\ \hline 6e-3/ & 459 \\ \hline 3e-3/ & 344 \\ 4e-2/ & 711 \\ \hline 3e-2/ & 711 \\ \hline 3e-2/ & 712 \\$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} F/&F\\ \hline F/&F\\ 0/&223\\ \hline 8e-3/&360\\ \hline 2e-5/&336\\ \hline 5e-1/&50\\ 0/&102\\ 9e-3/&444\\ \hline 3e-3/&343\\ 0/&413\\ \hline 2e-2/&137\\ 0/&100\\ \hline 3e-4/&164\\ \hline 3e-3/&308\\ \hline 4e-2/&1216\\ \hline F/&F\\ \hline F/&F\\ \hline F/&F\\ \hline F/&F\\ \hline F/&F\\ \hline 4e-3/&872\\ \end{array}$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MADSEN MAKELA1 MAKELA2 MARATOS MAKELA1 MAKELA2 MIFFLIN MIFFLIN MIFFLIN MIFFLIN PFIT1 PFIT2 PFIT3 PFIT3 PFIT3 PFIT3 PFIT4 POLAK1 POLAK4	/2/2/0/ 0 /2/2/0/ 0 IZ/3/0/2/ 0 IL/6/6/0/ 15 /3/0/2/ 1 IZ/3/0/2/ 0 /3/0/1/ 1 2/3/0/3/ 0 3/2/1/0/ 0 2/2/1/0/ 0 2/2/1/0/ 0 2/2/1/0/ 0 2/3/0/2/ 0 B/3/0/2/ 0 B/3/0/2/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/0/2/ 0 /3/0/2/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.2 -1.0 0.00 -1.0 -9.0e-15 1.3 F F F F F F F F F F F F F F F F S.0e-4	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/ & 254 \\ \hline 5e-3/ & 363 \\ \hline 3e-5/ & 358 \\ \hline 5e-1/ & 50 \\ 0/ & 101 \\ \hline 6e-3/ & 459 \\ \hline 3e-3/ & 344 \\ \hline 4e-2/ & 711 \\ \hline 3e-2/ & 711 \\ \hline 3e-2/ & 712 \\ \hline 3e-2/ & 712 \\ \hline 3e-2/ & 712 \\ \hline 750 \\ \hline 750$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA2 MARATOS MAKELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN MIFFLIN MIFFLIN MINMAXR MWRIGHT PFIT1 PFIT2 PFIT3 PFIT4 POLAK1 POLAK5 POLAK6	/2/2/0/ 0 /2/2/0/ 0 /2/2/0/ 0 /2/2/0/ 0 /2/2/0/ 0 /2/2/0/ 0 /3/0/2/ 4 /3/0/6/ 0 /3/0/6/ 0 /3/0/6/ 0 /3/0/3/ 0 2/2/1/0/ 0 2/2/1/0/ 0 2/2/3/0/2/ 4 11/3/0/1/ 1 12/3/0/2/ 0 //3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.2 -1.0 0.0 -1.0 -9.0e-15 1.3 F F F F F F - F - - - - - - - - - - - - -	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/&254\\ \hline 5e-3/&363\\ \hline 3e-5/&358\\ \hline 5e-1/&50\\ \hline 0/&101\\ \hline 6e-3/&459\\ \hline 3e-3/&344\\ \hline 4e-2/&711\\ \hline 3e-2/&135\\ \hline 0/&100\\ \hline 2e-4/&146\\ \hline 3e-3/&329\\ \hline 4e-2/1105\\ \hline 0/11378\\ \hline F/&F\\ \hline F/&F\\ \hline F/&F\\ \hline F/&F\\ \hline F/&F\\ \hline 2e-3/&730\\ \hline 8e-3/&373\\ \hline 7e-4/1230\\ \end{array}$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
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HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MADSEN MAKELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN MIFFLIN MIFFLIN MIFFLIN MWRIGHT PFIT1 PFIT1 PFIT3 PFIT4 POLAK1 POLAK6 POLAK6 POLAK6 POLAK5 POLAK6 POLALS RECIPE	/2/2/0/ 0 /2/2/0/ 0 /2/2/0/ 0 /2/2/0/ 0 /2/2/2/ 4 /2/2/0/ 15 /3/0/2/ 4 /2/2/0/ 0 /3/0/1/ 1 2/3/0/2/ 4 /2/1/0/ 0 2/2/1/0/ 0 2/2/1/0/ 0 2/3/0/2/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/2/0/ 0 /3/2/0/ 0 /3/2/0/ 0 /3/2/0/ 0 /3	$\begin{array}{c} 0.0\\ -9.8e-4\\ 1.1\\ 1.4\\ 1.2e2\\ 6.2e-1\\ -1.4\\ 7.2\\ -1.0\\ 0.0\\ -1.0\\ -1.0\\ -1.0\\ -1.0\\ -1.0\\ -1.0\\ -1.0\\ F\\ F\\$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/&254\\ \hline 5e-3/&363\\ \hline 3e-5/&358\\ \hline 5e-1/&50\\ 0/&101\\ \hline 6e-3/&459\\ \hline 3e-3/&354\\ \hline 4e-2/&711\\ \hline 3e-2/&135\\ 0/&100\\ \hline 2e-4/&146\\ \hline 3e-3/&329\\ \hline 4e-2/&1105\\ \hline 0/&1378\\ \hline F/&F\\ \hline 0/&47\\ \hline \end{array}$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN MIFFLIN MIFFLIN MIFFLIN MIFFLIN PFIT1 PFIT1 PFIT1 PFIT1 PFIT3 PFIT4 POLAK1 POLAK5 POLAK6 POWELLS RECIPE ROSENMM	/2/2/0/ 0 /2/2/0/ 0 /2/2/0/ 0 /2/2/0/ 0 /2/2/2/ 0 /2/2/2/ 4 /2/2/0/ 0 /3/0/2/ 4 /2/2/0/ 0 /3/0/1/ 1 2/3/0/2/ 4 1/3/0/1/ 1 1/2/3/0/2/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/2/2/0/ 0 /3/2/2/0/ 0 /3/2/2/0/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.0 -0.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/&254\\ \hline 5e-3/&363\\ \hline 3e-5/&358\\ \hline 5e-1/&50\\ 0/&101\\ \hline 6e-3/&459\\ \hline 3e-3/&344\\ \hline 4e-2/&110\\ \hline 3e-2/&135\\ 0/&100\\ \hline 2e-4/&146\\ \hline 3e-3/&329\\ \hline 4e-2/&1105\\ 0/&1378\\ \hline F/&F\\ F/&F\\ F/&F\\ F/&F\\ F/&F\\ F/&F\\ F/&F\\ F/&F\\ F/&F\\ \hline 2e-3/&730\\ \hline 8e-3/&373\\ \hline 7e-4/&1230\\ \hline 2e-4/&909\\ F/&F\\ \hline 0/&47\\ 0/&59\\ \end{array}$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MAKELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN MIFFLIN MIFFLIN MIFFLIN MIFFLIN PFIT1 PFIT1 PFIT1 PFIT1 PFIT3 PFIT4 POLAK1 POLAK5 POLAK6 POWELLS RECIPE ROSENMM	/2/2/0/ 0 /2/2/0/ 0 C/3/0/2/ 0 L/6/6/0/ 15 /3/0/2/ 1 C/5/0// 10 /3/0/6/ 0 /3/0/6/ 0 /3/0/1/ 1 2/3/0/3/ 0 2/2/1/0/ 0 2/2/1/0/ 0 2/2/3/0/2/ 0 LB/3/0/2/ 2 5/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/2/2/0/ 0 /3/2/2/0/ 0 /3/2/2/0 0 /3/2/2/0 0 /3/2/2/0 0 /3	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e1 -1.4 7.2 -1.0 0.0 -1.0 -1.0 -9.0e-15 1.3 F F F F F 7 -8.0e-4 5.0e1 -4.4e1 0.0 0.0 0.0 -4.4e1 3.3e2	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/&254\\ \hline 5e-3/&363\\ \hline 3e-5/&358\\ \hline 5e-1/&50\\ \hline 0/&101\\ \hline 6e-3/&459\\ \hline 3e-3/&344\\ \hline 4e-2/&711\\ \hline 3e-2/&135\\ \hline 0/&100\\ \hline 2e-4/&146\\ \hline 3e-3/&329\\ \hline 4e-2/&1105\\ \hline 0/&1378\\ \hline F/&F\\ \hline F/&F\\ \hline F/&F\\ \hline F/&F\\ \hline F/&F\\ \hline F/&F\\ \hline 2e-3/&730\\ \hline 8e-3/&373\\ \hline 7e-4/&1230\\ \hline 2e-4/&909\\ \hline F/&F\\ \hline 0/&47\\ \hline 0/&59\\ \hline 2e-2/&1320\\ \hline 8e-3/&555\\ \end{array}$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MADSEN MAKELA1 MAKELA2 MARATOS MAKELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN MIFFLIN MIFFLIN MIFFLIN MIFFLIN PFIT1 PFIT2 PFIT3 PFIT4 POLAK4 POLAK5 POLAK6 POWELLS RECIPE ROSENMM S316-32 S365	/2/2/0/ 0 /2/2/0/ 0 ic/3/0/2/ 0 ic/6/6/0/ 15 i/3/0/2/ 4 ic/5/0// 10 /3/0/6/ 0 /3/0/1/ 1 2/3/0/3/ 0 2/2/1/0/ 0 2/2/1/0/ 0 2/2/1/0/ 0 2/3/0/2/ 4 ii/3/0/1/ 1 ii/3/0/2/ 0 ii/3/0/2/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/0/2/ 0 /3/2/2/0/ 0 /3/2/2/0/ 0 /3/2/0/ 1 /xt>5/0/4/ 0 /zt/2/1/0/ 0 /zt/2/0/ 0 <td>0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.22 -1.0 0.00 -1.0 -1.0 -9.0e-15 1.3 F F F F F F F F F F F - 8.0e-4 5.0e1 -4.4e1 0.00 0.00 -0.000 -0.00 -</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td> <td>$\begin{array}{c cccc} 0/&254\\ \hline 5e-3/&363\\ \hline 3e-5/&358\\ \hline 5e-1/&50\\ 0/&101\\ \hline 6e-3/&459\\ \hline 3e-3/&344\\ \hline 4e-2/&113\\ \hline 3e-2/&135\\ 0/&100\\ \hline 2e-4/&146\\ \hline 3e-3/&329\\ \hline 4e-2/&1105\\ 0/&1378\\ \hline F/&F\\ F/&$</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td>	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e-1 -1.4 7.22 -1.0 0.00 -1.0 -1.0 -9.0e-15 1.3 F F F F F F F F F F F - 8.0e-4 5.0e1 -4.4e1 0.00 0.00 -0.000 -0.00 -	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/&254\\ \hline 5e-3/&363\\ \hline 3e-5/&358\\ \hline 5e-1/&50\\ 0/&101\\ \hline 6e-3/&459\\ \hline 3e-3/&344\\ \hline 4e-2/&113\\ \hline 3e-2/&135\\ 0/&100\\ \hline 2e-4/&146\\ \hline 3e-3/&329\\ \hline 4e-2/&1105\\ 0/&1378\\ \hline F/&F\\ F/&$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MADSEN MAKELA1 MAKELA2 MARATOS MAKELA1 MAKELA2 MARATOS MATRIX2 MIFFLIN MIFFLIN MIFFLIN MIFFLIN MIFFLIN PFIT1 PFIT2 PFIT3 PFIT4 POLAK4 POLAK5 POLAK6 POWELLS RECIPE ROSENMM S316-32 S365	/2/2/0/ 0 /2/2/0/ 0 ic/3/0/2/ 0 ic/3/0/2/ 4 ic/5/0/0/ 15 i/3/0/2/ 4 ic/5/0/0/ 10 i/3/0/1/ 1 i/3/0/1/ 1 i/3/0/1/ 1 i/3/0/1/ 1 i/3/0/2/ 4 i/3/0/1/ 1 i/3/0/2/ 0 i/3/0/2/ 0 i/3/0/2/ 0 i/3/3/0/ 0 i/3/0/2/ 0 i/3/0/2/ 0 i/3/0/2/ 0 i/3/0/2/ 0 i/3/2/2/ 0 i/3/2/2/ 0 i/3/2/2/ 0 i/3/2/2/ 0 i/3/2/2/ 0	0.0 -9.8e-4 1.1 1.4 1.2e2 6.2e1 -1.4 7.2 -1.0 0.0 -1.0 -1.0 -9.0e15 1.3 F F F F F F F F F F F 7.7 7 -8.0e4 5.0e1 -4.4e1 0.0 0.0 0.0 0.0 0.0 -4.4e1 3.3e2 0.00 F	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/&254\\ \hline 5e-3/&363\\ \hline 3e-5/&358\\ \hline 5e-1/&50\\ \hline 0/&101\\ \hline 6e-3/&459\\ \hline 3e-3/&344\\ \hline 4e-2/&711\\ \hline 3e-2/&135\\ \hline 0/&100\\ \hline 2e-4/&146\\ \hline 3e-3/&329\\ \hline 4e-2/&1105\\ \hline 0/&1378\\ \hline F/&F\\ \hline 0/&137\\ \hline 2e-3/&1320\\ \hline 8e-3/&595\\ \hline 0/&164\\ \end{array}$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HYPCIR KIWCRES LEWISPO LOOTSMA LSNNODO MADSEN MADSEN MAKELA1 MAKELA2 MARATOS MAKELA1 MIFFLIN MIFFLIN MIFFLIN MIFFLIN MINMAXR MWRIGHT PFIT1 PFIT2 PFIT3 PFIT4 POLAK1 POLAK1 POLAK5 POLAK6 POWELLB POLAK6 S316-32 S365 S365MOD SNAKE	/2/2/0/ 0 /2/2/0/ 0 ic/3/0/2/ 0 ic/5/0/0/ 15 i/3/0/2/ 4 ic/5/0/0/ 10 /3/0/6/ 0 /3/0/1/ 1 :/3/0/1/ 1 :/3/0/2/ 4 i/3/0/1/ 1 :/3/0/2/ 4 i/3/0/1/ 1 i/3/0/2/ 0 i/3/0/2/ 0 i/3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/3/0/ 0 /3/2/2/ 0 /5/0/4/ 0 is/2/2/0/ 0 is/2/2/0/ 0 /2/2/1/0/ 0 /2/2/1/0/ 0 /2/2/1/0/ 0 /2/2/1/0/ 0 /2/2/1/0/ 0 <td>$\begin{array}{c} 0.0\\ -9.8e-4\\ 1.1\\ 1.4\\ 1.2e2\\ 6.2e1\\ 7.2\\ -1.0\\ 0.0\\ -1.0\\$</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td> <td>$\begin{array}{c cccc} 0/&254\\ \hline 5e-3/&363\\ \hline 3e-5/&358\\ \hline 5e-1/&50\\ 0/&101\\ \hline 6e-3/&459\\ \hline 3e-3/&344\\ \hline 4e-2/&711\\ \hline 3e-2/&135\\ 0/&100\\ \hline 2e-4/&146\\ \hline 3e-3/&329\\ \hline 4e-2/&1105\\ 0/&1378\\ \hline F/&F\\ \hline 60/&47\\ 0/&59\\ \hline 2e-2/&1320\\ \hline 8e-3/&595\\ 0/&164\\ F/&F\\ F/&F\\$</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td>	$\begin{array}{c} 0.0\\ -9.8e-4\\ 1.1\\ 1.4\\ 1.2e2\\ 6.2e1\\ 7.2\\ -1.0\\ 0.0\\ -1.0\\$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} 0/&254\\ \hline 5e-3/&363\\ \hline 3e-5/&358\\ \hline 5e-1/&50\\ 0/&101\\ \hline 6e-3/&459\\ \hline 3e-3/&344\\ \hline 4e-2/&711\\ \hline 3e-2/&135\\ 0/&100\\ \hline 2e-4/&146\\ \hline 3e-3/&329\\ \hline 4e-2/&1105\\ 0/&1378\\ \hline F/&F\\ \hline 60/&47\\ 0/&59\\ \hline 2e-2/&1320\\ \hline 8e-3/&595\\ 0/&164\\ F/&F\\ F/&F\\$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
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