CD contents

The attached CD contains the file `eflib.for` which is a program library for use in various applications of the ef-based methods. The file collects both the directly accessible subroutines described in the book and the ones which are called internally by these. All subroutines were written in FORTRAN–95 and commented.
The subroutines described in the book (in alphabetic order), their purpose and the page number where they are presented are as it follows:

`CENC1`	- quadrature of a product of functions by ef-based extended rule.	118
`CGEBASE`	- computation of the functions $\eta_s(Z)$, $-1 \leq s \leq 6$, for given double complex Z.	64
`CGEBASEV`	- computation of the functions $\eta_s(Z)$, $-1 \leq s \leq n_{max}$, for given double complex Z and integer n_{max}.	64
`EFDER`	- ef-based numerical differentiation.	90
`EFEXTQS`	- coefficients of the ef-based extended quadrature rule with symmetric abscissas.	114
`EFGAUSS`	- weights and abscissas for the ef-based Gauss–Legendre quadrature rule with $1 \leq N \leq 6$ points.	130
`EFGQUAD`	- quadrature with the ef-based Gauss–Legendre rule with $1 \leq N \leq 6$ points.	130
`EFINT`	- ef-based two-point interpolation of a function.	139
`EFNUM`	- coefficients of various ef-based versions of the method of Numerov.	198
`EFQNS`	- weights of the ef-based quadrature rule with non–symmetric abscissas.	102
`EFQS`	- weights of the ef-based quadrature rule with symmetric abscissas.	102
`EF4STEP`	- coefficients of various ef-based versions of the	212

	symmetric four-step method for $y'' = f(x, y)$.	
GEBASE	- the same as CGEBASE for given double precision Z.	63
GEBASEV	- the same as CGEBASEV for given double precision Z.	63
REGSOLV	- numerical solution of the linear system $\mathbf{Ax} = \mathbf{b}$ with one block of functions for the coefficients.	23
REGSOLV2	- numerical solution of $\mathbf{Ax} = \mathbf{b}$ with two blocks of functions for the coefficients.	71

The following subroutines (also in alphabetic order) are called internally by the previous ones: CINFF1, CINFF2, CINFG1, CREGLIS, DCLUDEC, DCLUSBS, DCREGBL, GSYST, INFFENC1, INFFENC2, INFFFOUR, INFFNC1, INFFNC2, INFGENC1, INFGFOUR, INFGNC1, INFGNC2, LUDEC, LUSBS, REGBLOCK, REGLIS.

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