Maximal

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1   Purpose

Maximal computes the lapse function in order to maintain the maximal slicing condition

$$\mathrm{Tr}K_{ij} = 0 \ .$$

The lapse condition is

$$\nabla^2 \alpha = \alpha[K_{ij}K^{ij} + 4\pi(\rho + S)] \ . \tag{1}$$

One may choose among 3 different elliptic solvers (SOR, PETSc, and BAM), and different boundary conditions. It is also possible to use 'mixed slicing' (using a cheap method often and the expensive maximal only once in a while). A combination often used for mixed slicing is 4 times 1+log and every fifth time maximal.

2   Use

Maximal can use different elliptic solvers in order to solve (1), and the documentation for any solver used should be consulted for any perculiarities of the different solvers.