

A brief Report on the article “A finite difference method for free boundary problems”

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Abstract: B. Fornberg and R. Meyer–Spasche [*J. Comput. Phys.* 102, No. 1, 72–77] proposed some time ago a simple strategy to correct finite difference schemes in the presence of a free boundary that cuts across a Cartesian grid. The author shows here how this procedure can be combined with a minimax–based optimization procedure to rapidly solve a wide range of elliptic–type free boundary value problems. Numerical tests are presented to show the efficiency of the method.

Key words and phrases: finite differences; free boundary; minimax optimization; numerical examples

Subject classification:65N06; 35J25; 35R35

References

[FOR 92] B. FORNBERG AND R. MEYER–SPASCHE: A finite difference procedure for a class of free boundary problems. *J. Comput. Phys.*, **102** (1), 72–77 1992.