volume should stand as a most comprehensive survey of various aspects of Stefan problems.

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40 [5.10, 5.20, 13.20].–ROBERT D. RICHTMYER, Editor, *Proceedings of the Fourth International Conference on Numerical Methods in Fluid Dynamics,* Lecture Notes in Physics, Vol. 35, Springer-Verlag, Berlin, Heidelberg, New York, 1975, v + 457 pp., 24 cm. Price $16.00.

This volume contains papers presented at the Fourth International Conference on Numerical Methods in Fluid Dynamics, at the University of Colorado, USA, on June 24–28, 1974. There are 64 papers ranging from general theory for numerical methods to applications in specific problems.

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41 [5.10.1].– A. CARASSO & A. P. STONE, Editors, *Improperly Posed Boundary Value Problems,* Pitman, London, 1975, iv + 157 pp., 22 cm. Price £ 5.60, $12.90.

This volume, which is dedicated to Fritz John, represents a substantial portion of the proceedings of a five day regional conference on "Improperly posed problems in partial differential equations" held at the University of New Mexico in May, 1974. The lectures of the reviewer have been published separately as Volume 22 in the Regional Conference Series in Applied Mathematics (S.I.A.M.). The contents of this volume under review are as follows:

1. H. Brezis and J. A. Goldstein: *Liouville theorems for some improperly posed problems.*
2. J. R. Cannon: *A class of inverse problems: The determination of second order elliptic partial differential operators from over-specified boundary data.*
3. J. R. Cannon and R. E. Ewing: *The location of strengths of point sources.*
4. A. Carasso: *The backward beam equation and the numerical computation of dissipative equations backward in time.*
5. J. A. Donaldson: *A uniqueness class for two improperly posed problems arising in mathematical physics.*
6. M. Ghil: *The initialization problem in numerical weather prediction.*
7. H. A. Levine: *Nonexistence of global weak solutions to nonlinear wave equations.*
8. H. D. Meyer: *Half-plane representations and harmonic continuation.*
9. K. Miller: *Efficient numerical methods for backward solution of parabolic problems with variable coefficients.*
10. R. E. Showalter: *Quasi-reversibility of first and second order parabolic evolution equations.*
11. S. Steinberg: *Some unusual ill posed Cauchy problems and their applications.*
12. H. F. Walker: *Well-posedness of certain elliptic problems in unbounded domains.*

The general area of improperly posed problems in partial differential equations is a very active area of research at the present time. This volume should prove quite useful to the applied mathematician or engineer who must cope with such problems, to the novice who wishes to get some idea of what is currently being done in the field and to researchers who are active in certain sub-areas of the broad subject, but wish to know more about other areas of application.

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