

## Technical Review

Pat Q. Student  
AME 60604  
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In their recent article, Dahm, *et al.*<sup>1</sup> describe a novel and efficient method for... The physical problem of interest is .... The problem has application in the fields of.... A key model equation in this study is the reaction kinetics equation

$$\frac{\partial c_i}{\partial t} + \mathbf{u} \cdot \nabla c_i - \frac{1}{\rho} \nabla \cdot \rho D_i \nabla c_i = \sum_{j=1}^r \nu_{ij} w_j. \quad (1)$$

In this equation  $t$  represents time,  $c_i$  the molar concentration of the species  $i$ ,  $\mathbf{u}$  the velocity vector,  $\rho$  the density,  $D_i$  the diffusivity of species  $i$ ,  $\nu_{ij}$  the matrix of stoichiometric coefficients, and  $w_j$  the reaction rate of the  $j$ th reaction.

The typical method of solving this problem is to....In many cases this is deficient because.... Hence a new method is proposed which.... The method is applied to a set of test problems. It is seen that.... The authors summarize their major conclusions as follows....

The article is generally well written.... A small deficiency is seen in that... Nevertheless the strength of this paper is its clarity in....and novelty in....Those who are interested in problems in the related fields of... would find this paper to be useful.

### Notes

- Use the format provided here as a template; the text is entirely yours to write.
- Your review *must* consider a recent ( $t \geq 2000 AD$ ) and substantive article from the *Journal of Computational Physics*.
- One page maximum.
- Run your text file through a spell checker (UNIX command: *ispell filename.tex*).
- Always use complete sentences.
- Leave two spaces after a period. Leave one space after a comma.
- Give a footnote in the precise format given below. Do not be redundant with the main text.
- Use commas or periods at the end of equations as appropriate.
- Do not use contractions (such as don't).
- Minimize quotations. When necessary, use matched pairs of single quotes, like this: "your quote here".
- Identify all variables with words of description.
- All mathematical variables, whether within the text or in a separate equation, should be written in math mode, e.g. "When  $x = 0$ , there is a singularity."
- English text within equations should be in text mode; use the mbox and qquad commands for this:  
$$x = 1 \quad \text{when} \quad y = 0.$$
- Do not let your review become dominated by equations, but include at least one.
- Avoid simplistic or trite statements such as, "The authors have pointed the way to a method from which we can all benefit."

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<sup>1</sup>Dahm, W. J. A., Tryggvason, G., and Zhuang, M., 1996, "Integral Method Solution of Time-Dependent Strained Diffusion-Reaction Layers with Multistep Kinetics," *SIAM Journal of Applied Mathematics*, Vol. 56, No. 4, pp. 1039-1059.