Atmósfera (1994), 7, pp. 249

Letter to the Editor

Recently, Atmósfera published a paper (Cacuci and Schlesinger, 1994) in which we pointed out several inconsistencies, as well as omissions, in a paper by Marchuk and Skiba (1992). To our amazement, the same issue of Atmósfera contained a "reply" by Skiba (1994), which was published without our prior knowledge – let alone our comments.

A detailed point-by-point rebuttal of Skiba's (1994) production would be pointless because an educated reader should be able to see through his smoke screen without undue effort. How could one not see, for example, that Skiba (1994) starts by apologizing for some "accidental" errors – of a theoretical nature – but then jumps a la *catastrophe theory, discontinuously in time and subject, to a simplistic numerical scheme that was used for a demonstration calculation by Hall et al. (1982) over a decade ago, used not intrinsically, but rather for illustrative purposes. Skiba (1994) attacks that numerical scheme egregiously, because his supporting arguments (with the symmetric* 2×2 *matrices) are irrelevant to the results presented by Hall et al. (1983), or Hall and Cacuci (1983). Moreover, if Skiba's contrived arguments had any relevance at all, and if the scheme by Hall et al. had truly been unstable for their problem as he claims, it would follow by elementary logic that Hall et al. could not possibly have calculated the rather accurate numerical results presented in their papers.*

In reality, Skiba's (1994) criticism is an attempt to divert one's attention from the fundamental message of Cacuci and Schlesinger (1994): Credit for the development of the adjoint method and for its application in the Atmospheric Sciences belongs to many scientists, not just to Marchuk and his coworkers.

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(Manuscript received March 3, 1994; accepted in final form June 14, 1994)

REFERENCES

Cacuci, D. G., and M. E. Schlesinger, 1994. On the application of the adjoint method of sensitivity analysis to problems in the atmospheric sciences. *Atmósfera*, **7**, 47-59.

Marchuk, G. I., and Yu. N. Skiba, 1992. Role of adjoint equations in estimating monthly mean air surface temperature anomalies. *Atmósfera*, **5**, 119-133.

Hall, M. C. G., and D. G. Cacuci, 1983. Physical interpretation of adjoint functions for sensitivity analysis of atmospheric models. *J. Atmos. Sci.*, **40**, 2537-2546.

Hall, M. C. G., D. G. Cacuci and M. E. Schlesinger, 1982. Sensitivity analysis of a radiative–convective model by the adjoint method. *J. Atmos. Sci.*, **39**, 2038-2050.

Skiba, Yu. N., 1994. Reply to the paper by D. G. Cacuci and M. E. Schlesinger. *Atmósfera*, **7**, 75-80.