Readers' Forum

Brief discussions of previous investigations in the aerospace sciences and technical comments on papers published in the AIAA Journal *are presented in this special department. Entries must be restricted to a maximum of 1000 words, or the equivalent of one* Journal *page including formulas and figures. A discussion will be published as quickly as possible after receipt of the manuscript. Neither the AIAA nor its editors are responsible for the opinions expressed by the correspondents. Authors will be invited to reply promptly.*

Comment on "Theoretical Prediction of Erosive Burning Characteristics of Solid Rocket Propellant"

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FOR clarity, it is suggested that the following two parameters be added to Ref. 1:

$$B_x \equiv \frac{2e_s r}{c_{f0x} eu} \qquad b \equiv \frac{2e_s r}{c_{f0} eu}$$

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where c_{f0} is the drag coefficient at the prescribed condition but in the absence of density variations, longitudinal pressure gradient, and mass transfer.

Thus, the original Eqs. (2-6) of Ref. 1 may be rewritten as (for $\psi = 1$):

$$B_{xcr} = b_{cr} / (1 + 0.25 b_{cr})^{0.2}$$

Strictly speaking, however, this is incorrect, because for $\psi \neq 1$ the following expression should be used:

$$B_{xcr} = b_{cr} / b_{cr}^{0.1} = b_{cr}^{0.9}$$

References

[1] Jojić, B. and Blagojević, Dj., "Theoretical Prediction of Erosive Burning Characteristics of Solid Propellant," *AIAA Journal*, Vol. 15, April 1977, pp. 461-462.