It was erroneously mentioned that the results of Tables 1 and 2 of Ref. 1 are computed by the integrating matrix corresponding to third-order polynomial and differentiating matrix corresponding to fourth order. Actually, the results were computed by using the integrating matrix corresponding to fourth-order polynomial and the differentiating matrix was not used in the computations. The numerical example corresponding to the results of Tables 1 and 2 is a nonrotating blade, in which case the differentiating matrix is not necessary. The data for $b_0$ (semichord) are not required in the computation of the integrating matrix technique results of Tables 1 and 2.

### References

[1] Murthy, V. R., "Dynamic Characteristics of Rotor Blades: Integrating Matrix Method," *AIAA Journal*, Vol. 15, April 1977, pp. 595-597.

[2] Houbolt, J. C. and Brooks, G. W., "Differential Equations of Motion for Combined Flapwise Bending, Chordwise Bending, and Torsion of Twisted Non-Uniform Rotor Blades," NACA Rept. 1346, 1958.

[3] White, W. F. Jr. and Malatino, R. E., "A Numerical Method for Determining the Natural Vibration Characteristics of Rotating Nonuniform Cantilever Blades," NASA TM X-72, 751, 1975.

[4] Hunter, W. F., "The Integrating Matrix Method for Determining the Natural Vibration Characteristics of Propeller Blades," NASA TN d-6064, 1970.

## Comment on "Some Remarks on the Beck Problem"

J. Mayers*
*Stanford University, Stanford, Calif.*

ALTHOUGH El Naschie[1] is researching in the area of the stability of nonconservative systems, he is apparently unware of the eminent text by Bolotin[2] first published in the English translation in 1961. Bolotin's treatise includes (as a first application of the dynamic criterion to a nonconservative-force, elastic-stability problem) the identical configuration, equation of motion, frequency equation, stability criterion, and critical value of the applied load presented by El Naschie in his Note.

### References

[1] El Naschie, M. S., "Some Remarks on the Beck Problem," *AIAA Journal*, Vol. 15, August 1977, pp. 1200-1201.

[2] Bolotin, V. V., *Nonconservative Problems of the Theory of Elastic Stability*, Pergamon Press Ltd., Oxford, 1961 (distributed by the Macmillan Company, New York), pp. 11-12.

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Index category: Structural Stability.

*Professor, Department of Aeronautics and Astronautics. Associate Fellow AIAA.

## Reply by Author to J. Mayers

M. S. El Naschie*
*University of Riyadh, Saudi Arabia*

I WOULD sincerely like to thank Prof. Mayers for taking the trouble of writing these comments, and his point is very well taken. At the same time, I would like to point out a few things which I feel are not of minor importance. Of course I am familiar with all of the papers published by Prof. Bolotin. However, I have read only the German translation of his book,[1] in which he treats the Beck problem on page 313. His treatment, however, differs completely from my Note, and his result, $P^c = 24.43\ EI/\rho^2$, on page 321 is about 20% larger than my result.[1,2] The most vital point, that the equilibrium method presented in Ref. 2 gives the exact answer for a class of problems including the Beck problem, was not mentioned at all[5]. I doubt that it was ever recognized by anyone except Ingerle. Since I am more fluent in the German language than in English, I did not consider it necessary to look at the English version, also translated in 1961, which Prof. Mayers refers to and which, unfortunately, is not available in our library in Riyadh. (I do know this book exists as I referred to it in Ref. 2.) Nevertheless, I think this is all besides the point because, and I would like to emphasize this, the purpose of my Note was to point out that the T.C.S.S. method[2] can yield the exact answer for a certain class of problem.[3-5] The analysis, which is very elementary, was included merely as a supplement to make the work self-contained and to encourage research in this direction.[3-7]

### References

[1] Bolotin, W. W., *Kinetische stabilität Elastischer Systeme*, translated from Russian to German by G. Schmidt, VEB Verlag, Berlin, 1961, p. 313.

[2] El Naschie, M. S., "Post Buckling Behaviour of the Beck Problem," *Journal of Sound and Vibration*, Vol. 48, No. 3, 1976, pp. 341-344.

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[4] El Naschie, M. S., "A Finite Element Mechanical Model for the Numerical Estimation of Buckling Loads," *International Journal of Mechanical Engineering Education*, 1977, in print.

[5] El Naschie, M. S. and Galalli, I., *On the Leipholz Problem*, to be published.

[6] Leipholz, H., *Stabilitäts Theorie*, Teubner, Stuttgart, 1968, p. 192.

[7] Pflüger, A., *Stabilitäts probleme der Elastostatic*, Springer Verlag, Berlin, 1964.

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*Assistant Professor.

## Comment on "Shock Penetration and Lateral Pressure Gradient Effects on Transonic Viscous Interactions"

T. C. Adamson Jr.* and A. F. Messiter†
*The University of Michigan, Ann Arbor, Mich.*
and
R. E. Melnik‡ and B. Grossman§
*Grumman Aerospace Corporation, Bethpage, N. Y.*

THE first sentence in the Note in question[1] is as follows: "In existing interaction theories the impinging shock is usually imposed as a boundary-layer edge condition but its subsequent penetration into the layer and the corresponding lateral interaction-pressure gradient is neglected." The remainder of the Note consists of an attempt to adjust Inger's

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*Professor, Department of Aerospace Engineering. Associate Fellow AIAA.

†Professor, Department of Aerospace Engineering. Member AIAA.

‡Director of Aerophysics, Research Department. Associate Fellow AIAA.

§Head of Aero Branch, Research Department. Member AIAA.