Corrigenda

Three-Dimensional Flow in Highly-Loaded Axial Turbomachines.

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In the author's paper, 'Three-Dimensional Flow in Highly-Loaded Axial Turbomachines' Figure 1 has been found to be slightly in error. Upon correction, we find that the deflection angles caused by the blade wake-loss, which leads to the vorticity described in the reference [1], are actually larger. The new results are provided in Figure 1 of this note.

The reader will note that the effects of vorticity generated at the blades couple strongly, in the highly swirling flow, with the blades' performance and, hence, with their pressure distributions. This effect, as stated in the text, was predicted by Kerrebrock [2], and further elucidated by the theory and experiment of Greitzer and Strand [3].

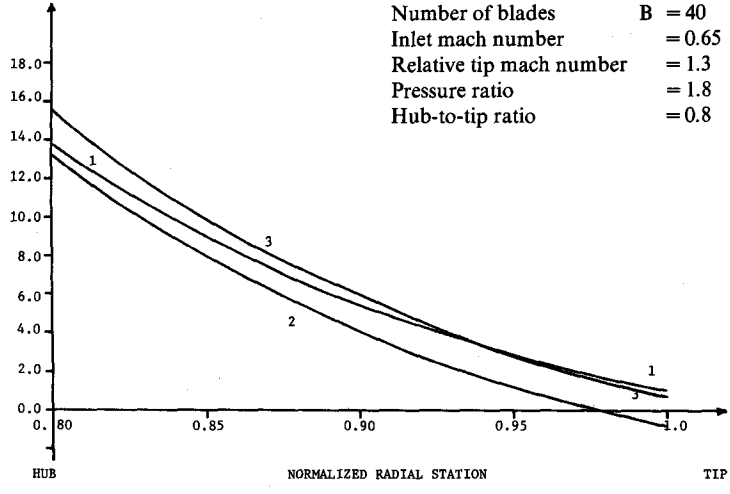

Fig. 1.
Flow angle deflection vs. radius for the case where minimum of stagnation pressure coincides with trailing edge of the blades. *Curves:* 1. Radial equilibrium solution; 2. Actuator disc solution; 3. Circumferentially non-uniform flow due to presence of wakes with total pressure loss-coefficient of 0.025.

References

[1] McCune, James E., 'Three-Dimensional Flow in Highly-Loaded Axial Turbomachines', Z. angew. Math. Phys. *28,* 865-878 (1977).

[2] Kerrebrock, Jack L., 'Small Disturbances in Turbomachine Annuli with Swirl', MIT Gas Turbine & Plasma Dynamics Lab. Report No. 125, Oct. 1975, also AIAA J., *15,* No. 6, June (1977).

[3] Greitzer, E.M., and Strand, T., 'Asymmetric Swirling Flows in Turbomachine Annuli', Prepared for ASME London Meeting, 1978.