with hydrostatic bearings, it would suggest that this bearing type is better able to handle suddenly applied loads. Under such conditions, normal self-acting bearings may not be able to quickly fill cavitated regions and provide load support.

Luis San Andres

The authors are commended for providing very useful measurements of the rotordynamic coefficients of hybrid combination (hydrostatic and hydrodynamic) fluid film bearings. The paper contains a very lucid discussion of the past work on HJBs and their applications to modern turbomachinery. The experimental method is sound and the effort to provide uncertainties for the measured parameters is remarkable. I have some questions which will improve the high quality of the work presented.

The signal processing diagram (Fig. 3) shows a phase correction after the Fourier analysis. Could the authors elaborate on this part of their identification technique?

The analysis for prediction of the force coefficients is based on the solution of the Reynolds equation for an incompressible fluid under laminar flow and without cavitation. A simple correction for the direct stiffness coefficients accounting for the pocket volume—fluid compressibility is introduced. Calculated stiffness values with this correction show a better correlation with the measured values. Was there an attempt to find a similar correction for the cross-coupled stiffness and damping coefficients?, and if so, was there an improvement in the correlation with the test coefficients?

The identification method described by Eqs. (3) to (5) and Fig. 3 shows that inertia force coefficients are also extracted from the recorded time varying forces and journal motion.

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