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Transient problem with a variable thickness profile and a lubricant supply orifice located on the shaft; 2.5.3.3. Transient problem with a stationary thickness profile and a lubricant supply orifice located on the shaft; 2.5.3.4. Geometrical definition of the supply zone; 2.5.4. Behavior in the case of a variation in the axial direction of the film thickness; 2.5.5. Evaluation of the global thermal method (GTM); 2.6. Bibliography
Chapter 3: Simplified Thermo-hydrodynamic Models3.1. Simplified THD model based on the Rhode and Li assumptions; 3.1.1. Expression of the pressure and reduced Reynolds equation; 3.1.2. Velocity components; 3.1.3. Energy and Fourier equations; 3.1.4. Discretization of equations; 3.1.5. Evaluation of the method based on Rhode and Li assumptions; 3.2. Simplified models for cyclic regimes; 3.2.1. Model with the temperature averaged on the film thickness (ATM); 3.2.1.1. Model description; 3.2.1.2. Model evaluation for a stationary "rigid" case
3.2.1.3. Transient problem with a non-constant thickness profile and a lubricant supply orifice located on the shell3.2.1.4. Transient problem with a stationary thickness profile and a lubricant supply orifice located on the shaft; 3.2.2. Model with a parabolic temperature profile across the film thickness (PTM); 3.2.2.1. Model description; 3.2.2.2. Model evaluation for a stationary "rigid" case; 3.2.2.3. Transient problem with a variable thickness profile and a lubricant supply orifice located on the bearing shell
3.2.2.4. Transient problem with a stationary thickness profile and a lubricant supply orifice located on the shaft

Sommario/riassunto

This Series provides the necessary elements to the development and validation of numerical prediction models for hydrodynamic bearings. This book describes the thermo-hydrodynamic and the thermo-elasto-hydrodynamic lubrication. The algorithms are methodically detailed and each section is thoroughly illustrated.