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Chapter 3: Numerical Resolution of the Reynolds Equation

3.1. Definition of the problems to be solved; 3.1.1. Definition of the problems to be solved; 3.1.2. Problem 2: determining of the pressure and the lubricant filling; 3.1.3. Other problems; 3.2. The finite difference method; 3.2.1. Computation grid; 3.2.2. Discretization of standard Reynolds equation (problem 1); 3.2.3. Discretization of modified Reynolds equation (problem 2); 3.3. The finite volume method; 3.3.1. Mesh of the film domain; 3.3.2. Discretization of the standard Reynolds equation (problem 1); 3.3.3. Discretization of modified Reynolds equation (problem 2)

Sommario/riassunto

This Series provides the necessary elements to the development and validation of numerical prediction models for hydrodynamic bearings. This book describes the rheological models and the equations of lubrication. It also presents the numerical approaches used to solve the above equations by finite differences, finite volumes and finite elements methods.
