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Numerical solution of cavitation problems in lubrication. (English) Zbl 0687.76030
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Summary: A combination of the method of characteristics and of the finite element method is applied to solve numerically a stationary free boundary problem of hydrodynamic lubrication with cavitation. The discretization leads to a system of nonlinear equations. To solve it a duality iterative algorithm is used. Numerical results presented.

MSC:

76D08 Lubrication theory
76M99 Basic methods in fluid mechanics

Cited in **9** Documents

Keywords:

method of characteristics; finite element method; stationary free boundary problem of hydrodynamic lubrication with; cavitation; stationary free boundary problem of hydrodynamic lubrication with cavitation

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