CARPATHIAN J. MATH.
23 (2007), No. 1 - 2, 177 - 186

Dedicated to Professor Ioan A. RUS on the occasion of his 70^{th} anniversary

Analysis of a generalization of the Signorini problems. Contact boundary conditions and frictions laws

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ABSTRACT. The contact conditions between two deformable bodies are approximated by a generalization of the Signorini problem due to the presence of a second deformable body. In the formulation of the contact problems, we must introduce a new notational framework in which the contact areas, the contact forces and the motions of associated boundaries are unknown beforehand, and must be determined as part of the solution. We obtain inequations which describe a restriction of the points from the contact boundary, supposing that these points move in a normal direction at one of the boundaries in contact. In this paper the strong and the variational of the boundaries contact conditions is presented, and we will formulate of the contact conditions and of the friction contact laws between two deformable bodies.

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