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A quasistatic frictional problem with normal compliance. (English) Zbl 0722.73061
Nonlinear Anal., Theory Methods Appl. 16, No. 4, 347-369 (1991).

The paper is devoted to the quasistatic loading problem of a linear- elastic body being in frictional contact with a rigid support, adopting the “normal compliance model” in the form of a power law. Author proves an existence theorem by selecting a sequence of incremental solutions and showing that his one converges towards a solution of the full quasistatic problem. The investigation is based on the variational inequality describing the problem under discussion, and on concepts of nonlinear functional analysis. The question of uniqueness of the solution is still open.

Reviewer: [H.Bufler \(Stuttgart\)](#)

MSC:

[74A55](#) Theories of friction (tribology)
[74M15](#) Contact in solid mechanics
[49J40](#) Variational inequalities
[74S30](#) Other numerical methods in solid mechanics (MSC2010)
[74P10](#) Optimization of other properties in solid mechanics

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Keywords:

[nonlinear parabolic variational inequalities](#); [quasistatic loading problem](#); [linear-elastic body](#); [frictional contact with a rigid support](#); [normal compliance model](#); [power law](#); [existence theorem](#); [sequence of incremental solutions](#)

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