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**Existence and approximation of a solution to quasistatic Signorini problem with local friction.** (English) [Zbl 1210.74126](#)

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**Summary:** We consider an elastic body submitted to a local Coulomb friction law on a part of his boundary. After discretizing the variational formulation with respect to time, we use a smoothing technique to approximate the friction law in an auxiliary problem. A shifting technique enables us to obtain the existence of a solution with bounds independent of the regularization parameter. We prove the existence of a solution for the incremental problem, which is bounded independently of time and we construct a solution of the quasistatic problem by taking the limit of incremental solution.

**MSC:**

[74M10](#) Friction in solid mechanics

[74G10](#) Analytic approximation of solutions (perturbation methods, asymptotic methods, series, etc.) of equilibrium problems in solid mechanics

[74G25](#) Global existence of solutions for equilibrium problems in solid mechanics (MSC2010)

[74M15](#) Contact in solid mechanics

Cited in **8** Documents

**Full Text:** [DOI](#)

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