Sypchenko, I. V.; **Timonina, D. S.**

Closed geodesics on piecewise smooth surfaces of revolution with constant curvature. (English. Russian original) Zbl 1344.53004

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Authors' abstract: A theorem on the structure of breaks of generalized geodesics on piecewise smooth surfaces is established in two dimensions and n dimensions. To illustrate the result, all simple closed geodesics are found: on a cylinder (with bases included), on a surface formed as a union of two spherical caps and on a surface formed as a union of two cones. In the last case the stability of the closed geodesics (in a natural finite-dimensional class of perturbations) is analysed, the conjugate points and the indices of the geodesics are found. This problem is related to finding conjugate points in piecewise smooth billiards and surfaces of revolution.

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