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# Axisymmetric Problem for an Elastic Medium with a Spherical Inclusion When There Is a Crack at the Interface

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A problem on the stressed state of an elastic medium with a spherical inclusion when there is a crack at the interface is solved by exact methods of the linear theory of elasticity. At first the problem is reduced to an interrelated system of paired equations with respect to the Legendre functions, and then – to a system of singular integral equations relative to two unknown functions. The behaviour of the equation solutions is studied near the interface circle of a spherical section. The case is examined when the cross-section surfaces are under normal internal pressure of constant intensity. This problem is linked to the study of stressed state of high-strength composit materials with low-percentage content of the spherical dispersed particles.

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