SM6S_11901

XXI International Congress of Theoretical and Applied Mechanics
Warsaw, Poland, August 15–21, 2004

Axisymmetric Force Solution for a Semi-Infinite Cubic Solid

Charles Ruimy(1), Marc Dahan(2)

(1) *UHA, Mulhouse, France*
(2) *Laboratory of Applied Mechanics, Besancon, France*

An exact three-dimensionnal analysis is developped for an axisymmetric loading on the surface of a half-space composed by an anisotropic cubic medium. The loading is assumed to be parallel to the elastic symmetry axis of the material. The general solution of the axisymmetric problem for a homogeneous medium is given for a surface concentrated loading by exact integral expressions, and from it a closed form solution for a point force is deduced. The numerical results are performed to show the anisotropic effect with isovalue curves of stress.

View the extended summary