

THE RAY METHOD IN PROBLEM OF A IMPACT INTERACTION OF A SOLID BODY AND A SPHERICAL SHELL

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In the paper is investigated the transverse impact of a solid body through elastic buffer on a circular sector of spherical shell. Dynamical behavior of target is described by without moment moving equations, which solved the ray method, with exactness at integrated constants. Arbitrary constants are determined at splicing on border of contact disk of the solution for target, contact area and impactor. In the present scientific work allow to assume, that in a shell the transient longitudinal wave, because of which there is a deformation of a shell material outside of contact area, is generated with final velocity. The compact analytical expressions for contact force and dynamical normal displacement are defined. The carried out numerical researches and represented figures allow to make the conclusion about influence of parameters of a construction on dynamic characteristics of interaction.