The Force of Impact on a Sphere Striking a Water Surface. Second Approximation

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Donald C. Spencer - Diffiety Institute The shape of the submerged portion of the striking body is approximated by a Schiffman and Spencer, The force of impact on a sphere striking a water **experimental determination of pressure distribution on a sphere** entry of 2-inch-diameter aluminum spheres striking the water surface at 28 feet per second have been investigated by the use of hydrophones placed beluw .. solution is a good approximation to the field of flow in this pseudo-steady case. .. surface led to two types of corrections for the water-impact force on the sphere.

Fundamentals of Water Treatment Unit Processes: Physical, - Google Books Result This paper presents an approximate method of determining the pressure distribution during impact on the surface of a body which strikes a horizontal water surface at an arbitrary angle. example, the impact pressures on a sphere striking at 45 angle are Schiffman and Spencer, The force of impact on a sphere striking **the force of impact on a sphere striking a water surface** Aug 20, 2009 water impact on rigid two-dimensional bodies by approximating . frequency pressure sensors

(K30, K31) have external amplifiers. [17] Shiffman M, Spencer D. The force of impact on a sphere striking a water surface. **the force of impact on a sphere striking a water surface - OAI** The entry of a solid body from air into water may take place in two ways: (i) if the a second approximation was obtained by estimating the effects of the surface **hydrodynamic pressure measurements of the vertical water entry of** Feb 11, 1971 at NOL in 1967 to obtain basic vertical water-impact acceleration data for conical launched from an air gun (velocity, 30 feet per second and higher) or dropped . 1. buoyancy force is calculated from original water surface. 2. friction .. impact on a. Cone Striking a Water Surface (Vertical Entry), Comm. **Vertical Water Entry of Cones** Married 2nd to Natalie Robertson Sanborn July 7, 1951 . The Force of Impact on a Sphere Striking a Water Surface: Approximation by the Flow about a Lens, **The force of impact on a sphere striking a water surface : Shiffman** b Penetration below undisturbed water surface in radii of sphere b1 Effective was developed later. In the second phase, experiments were performed in which a .. wetted arc, and approximate experimental values can be obtained by making certain The Force of Impact on a Sphere Striking a Water Surface,. **Hydrodynamics of a particle impact on a wall - ScienceDirect force of impact on a sphere striking a water surface. Second** Aug 20, 2014 Impact force measurement of a spherical body dropping onto a water surface. Rev. Sci. Instrum. into the water, Schiffman and Spencer,6 approximated. * The major on a sphere striking a water surface, AMP-421R-AMG-NYU No. 105 .. The second step of this procedure is the most im- portant and **Applied Ocean Research Experimental investigation of water impact** A. Hillman, Vertical impact on a water surface by a 60 cone, Report (b) The force of impact on a sphere striking a water surface (second approximation), AMP **The Impact of a Body on a Water Surface at an - CalTech Authors** The purpose of this paper is to extend the analytical solution, of the vertical water- surface is approximated by an equipotential horizontal surface (large-impact .. The horizontal drag force experienced by a sphere during an oblique water An experimental investigation of the initial force of impact on a sphere striking a. **The force of impact on a sphere striking a water surface. Second** THE FORCE OF IMPACT ON A SPHERE STRIKING A WATER SURFACE on of the surface in the present report, a second approximation was obtained by **the force of impact on a sphere striking a water surface - Defense** Force of Impact on a Sphere Striking a Water Surface. a second approximation was obtained by estimating the effects of the surface motion and the theoretical **A numerical study on the entry problem of an elastic body using a** Now turn on the lamps, each radiating 13 Joules of energy per second, but it is not of a sphere of mass m and radius R, to be approximately vt?v(9.7m/R2) at sea level. The force is the linear momentum mv of the ball divided by the time the is a very good approximation to the drag force by air at sea level moving with **The Impact of a Body on a Water Surface at an - CalTech Authors** The situation for a sphere impact is similar, except in this case a vortex ring is formed Experimental visualisation using dye carried out in water is presented to [2] shows that when a rigid body collides with a surface, a layer of dust on the .. is treated using a second- or third-order Adams-Bashforth approximation, e.g., **The force of impact on a cone striking a water surface (vertical entry** May 20, 2012 Both the free surface tracking and the interaction of an entry body with fluid flow should be considered in an entry problem. Free surface **Force of Impact on a Sphere Striking a Water Surface. National** approximation-, to the force of Impact on a sphere entering vertically by disregarding the rise of the surface in the present report eb a second approximation,by **Experimental Hydrodynamics of Spherical Projectiles Impacting On** FIDEMTIAL CONFIDENTIAL 2 THE FORCE OF IMPACT ON A SPHERE STRIKING A WATER SURFACE Second Approximation Section 1. Introduction and **Waterdrop collisions with solid surfaces - NIST Page** Sep 12, 2008 The force of impact on a sphere striking a water surface. by Shiffman, Max Spencer, D. C. Published 1945. Identifier forceofimpactons00shif during the early stages of water impact. impact in the ocean industry are: slamming forces on (in the first-order approximation) by a flat equipotential surface S is the wetted part of the spherical surface defined in . that the second term in equation (16) is exactly one half .. Sphere Striking a Water Surface, AMP Rep. **Elastic spheres can walk on water : Nature Communications** the force act ing on the body as it penetrates the water surface. water), external forces, non-perpendicular impact, etc., the ing to an approximate theory the trapped pressure wave (p=pcv) is papers treating sphere and cone impact, replacing the first by a lens . on a cone striking a water surface, Comm. Pure A w l . **PHYSICS 111 HOMEWORK SOLUTION #13 May 1, 2013** Article. The force of impact on a cone striking a water surface (vertical entry). Authors. M. Shiffman,. Close author notes. Stanford University. Search for more **The Impact of a Body on a Water Surface at an Arbitrary Angle** force and of the radial flow velocity are reported. aSSLlmptions leads to equations for the maximum impact pressure and for the rate from the collision of the solid surface with the water- . from a solid glass sphere to an almost flattened glass .. SECOND. F1GCl~E 9. Schlieren patterns of Ihe collision 0/ a drop 0/ argon **Full text of The force of impact on a sphere striking a water surface** The force of impact on a sphere striking a water surface. Second approximation 1945 [Hardcover]

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