Accepted Manuscript

A New Simplified Analytical Model for Soil Penetration Analysis of Rigid Projectiles Using the Riemann Problem Solution

V.R. Feldgun , D.Z. Yankelevsky , Y.S. Karinski

PII: S0734-743X(16)30629-7
DOI: 10.1016/j.ijimpeng.2016.10.015
Reference: IE 2776

To appear in: *International Journal of Impact Engineering*

Received date: 30 August 2016
Revised date: 31 October 2016
Accepted date: 31 October 2016

Please cite this article as: V.R. Feldgun , D.Z. Yankelevsky , Y.S. Karinski , A New Simplified Analytical Model for Soil Penetration Analysis of Rigid Projectiles Using the Riemann Problem Solution, *International Journal of Impact Engineering* (2016), doi: 10.1016/j.ijimpeng.2016.10.015

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Highlights

- A new simplified analytical model for penetration analysis of rigid projectiles into soil is developed.
- The soil medium is represented by thin plane strain discs, responding in the radial direction.
- The new model is based on the exact Riemann problem solution for an irreversible compressible medium.
- The model employs the exact nonlinear equation of state including unloading-reloading.
- Analysis focuses on the projectile–soil interface and predicts the projectile motion information.
- Very good predictions are obtained in comparison to test data and to computer code analysis.

ACCEPTED MANUSCRIPT

Download English Version:

https://daneshyari.com/en/article/5015599

Download Persian Version:

https://daneshyari.com/article/5015599

Daneshyari.com