

عنوان مقاله:

Low Velocity Impact Response of Laminated Composite Truncated Sandwich Conical Shells with Various Boundary Conditions Using Complete Model and GDQ Method

محل انتشار:

مجله مکانیک کاربردی و محاسباتی، دوره 3، شماره 1 (سال: 1396)

تعداد صفحات اصل مقاله: 15

نویسندگان:

A Azizi - *Department of Mechanical and Aerospace Engineering, Science and Research Branch, Islamic Azad University, Tehran, Iran*

S.M.R Khalili - *Centre of Excellence for Research in Advanced Materials and Structures, Faculty of Mechanical Engineering, K.N. Toosi University of Technology, Tehran, Iran*

K Malekzadeh Fard - *Malek Ashtar University of Technology, Department of Mechanical Engineering, 4th Kilometer, Makhsous RD, Tehran, Iran*

خلاصه مقاله:

In this paper, the dynamic analysis of the composite sandwich truncated conical shells (STCS) with various boundary conditions subjected to the low velocity impact was studied analytically, based on the higher order sandwich panel theory. The impact was assumed to occur normally over the top face-sheet, and the contact force history was predicted using two solution models of the motion which were derived based on Hamilton's principle by considering the displacement continuity conditions between the layers. In order to obtain the contact force and the displacement histories, the differential quadrature method (DQM) was used. In this investigation, the effects of different parameters such as the number of layers of the face sheets, the boundary conditions, the semi vertex angle of the cone, and the impact velocity of the impactor on the impact response of the complete model were studied.

کلمات کلیدی:

Low velocity impact, STCS, DQM, Complete model

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