

Accepted Manuscript

Application of transformed differential quadrature to free vibration analysis of FG-CNTRC quadrilateral spherical panel with piezoelectric layers

A.R. Setoodeh, M. Shojaee, P. Malekzadeh



PII: S0045-7825(18)30103-8
DOI: <https://doi.org/10.1016/j.cma.2018.02.022>
Reference: CMA 11797

To appear in: *Comput. Methods Appl. Mech. Engrg.*

Received date : 3 December 2017

Revised date : 21 February 2018

Accepted date : 23 February 2018

Please cite this article as: A.R. Setoodeh, M. Shojaee, P. Malekzadeh, Application of transformed differential quadrature to free vibration analysis of FG-CNTRC quadrilateral spherical panel with piezoelectric layers, *Comput. Methods Appl. Mech. Engrg.* (2018), <https://doi.org/10.1016/j.cma.2018.02.022>

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.

Application of transformed differential quadrature to free vibration analysis of FG-CNTRC quadrilateral spherical panel with piezoelectric layers

A.R. Setoodeh^{a,*}, M. Shojaei^a, P. Malekzadeh^b

^a*Department of Mechanical and Aerospace Engineering, Shiraz University of Technology,
Shiraz 71555, Iran*

^b*Department of Mechanical Engineering, School of Engineering, Persian Gulf University,
Bushehr 7516913798, Iran*

Research Highlights:

- A framework based on the DQ method for the free vibration analysis of FG-CNTRC quadrilateral spherical panels with surface-bonded piezoelectric layers.
- Higher-order shear deformation theory is used to model the displacement fields of quadrilateral thick spherical panels.
- The benefit of this method is the usage of the transformed weighted coefficients in order to discretize partial differential equations in physical domain.
- The article presents useful results for the design purpose of curved panels with complex geometries.

*Corresponding author. Telfax.: +98 71 37264102.

E-mail addresses: setoodeh@sutech.ac.ir and asetood@yahoo.com (A.R. Setoodeh)

Download English Version:

<https://daneshyari.com/en/article/6915517>

Download Persian Version:

<https://daneshyari.com/article/6915517>

[Daneshyari.com](https://daneshyari.com)