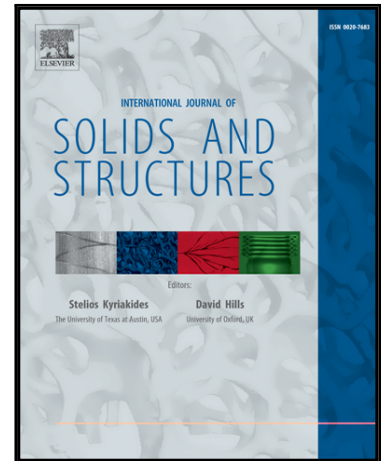


Accepted Manuscript

Buckling of Quasi-Perfect Cylindrical Shell under Axial Compression:
A Combined Experimental and Numerical Investigation

Bo Wang , Shiyang Zhu , Peng Hao , Xiangju Bi , Kaifan Du ,
Bingquan Chen , Xiangtao Ma , Yuh J. Chao

PII: S0020-7683(17)30448-1
DOI: [10.1016/j.ijsolstr.2017.09.029](https://doi.org/10.1016/j.ijsolstr.2017.09.029)
Reference: SAS 9746



To appear in: *International Journal of Solids and Structures*

Received date: 27 March 2017
Revised date: 15 September 2017
Accepted date: 27 September 2017

Please cite this article as: Bo Wang , Shiyang Zhu , Peng Hao , Xiangju Bi , Kaifan Du ,
Bingquan Chen , Xiangtao Ma , Yuh J. Chao , Buckling of Quasi-Perfect Cylindrical Shell under Axial
Compression: A Combined Experimental and Numerical Investigation, *International Journal of Solids
and Structures* (2017), doi: [10.1016/j.ijsolstr.2017.09.029](https://doi.org/10.1016/j.ijsolstr.2017.09.029)

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.

Highlights

- We manufactured, analyzed and tested the sub-scaled, cylindrical shell without weld lands but with small-amplitude geometric imperfection, and negligible residual stress, thickness variations and loading imperfections. This strategy of test specimen design isolates the geometric imperfection from other imperfections and therefore can be served as a benchmark for investigating the effect to KDF from pure geometric imperfections.
- In the development of FE numerical procedure: we investigated and compared the Fourier series method with the scatter points method in terms of prediction accuracy and computational efficiency.
- From the experimental and numerical results, we provide guidance in dimensional tolerance for maximizing the load-carry capacity of cylindrical structures in manufacturing.

Download English Version:

<https://daneshyari.com/en/article/6748490>

Download Persian Version:

<https://daneshyari.com/article/6748490>

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