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On the Formulation of a Finite Element Method for the General Pipe-in-Pipe Structure System: Impact Buckling Analysis

Tianyu Li

PII: S0020-7403(17)32693-0
DOI: 10.1016/j.ijmecsci.2017.11.011
Reference: MS 4027

To appear in: *International Journal of Mechanical Sciences*

Received date: 23 September 2017
Revised date: 3 November 2017
Accepted date: 7 November 2017

Please cite this article as: Tianyu Li , On the Formulation of a Finite Element Method for the General Pipe-in-Pipe Structure System: Impact Buckling Analysis, *International Journal of Mechanical Sciences* (2017), doi: 10.1016/j.ijmecsci.2017.11.011

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Highlight:

- A finite element method for general pipe-in-pipe structure system is developed;
- The cross-section of the pipe-in-pipe structure system can be defined as any shape;
- A novel algorithm to determine the location of impact between the inner pipe and the outer pipe is proposed;
- Nonlinear finite element implementation details are presented;
- Four kinds of pipe-in-pipe structures are analyzed, the results are compared with ANSYS;

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