

## Accepted Manuscript

Deflagration-to-Detonation Transition in Pipes: The Analytical Theory

Boo-Hyoung Bang , Chan-Sol Ahn , Young-Tae Kim ,  
Myung-Ho Lee , Min-Woo Kim , Alexander L. Yarin , Sam S. Yoon

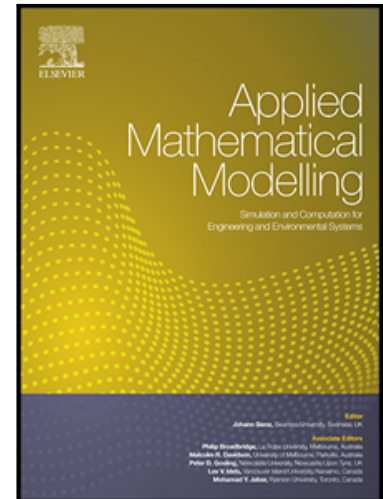
PII: S0307-904X(18)30465-7  
DOI: <https://doi.org/10.1016/j.apm.2018.09.023>  
Reference: APM 12475

To appear in: *Applied Mathematical Modelling*

Received date: 5 February 2018  
Revised date: 27 August 2018  
Accepted date: 12 September 2018

Please cite this article as: Boo-Hyoung Bang , Chan-Sol Ahn , Young-Tae Kim , Myung-Ho Lee , Min-Woo Kim , Alexander L. Yarin , Sam S. Yoon , Deflagration-to-Detonation Transition in Pipes: The Analytical Theory, *Applied Mathematical Modelling* (2018), doi: <https://doi.org/10.1016/j.apm.2018.09.023>

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

1. The fundamental aspects of the Deflagration-to-Detonation Transition (DDT) phenomenon are presented.
2. This DDT theory is capable to predict the pressure rise and the shock wave speed for a given fuel type and concentration
3. The overpressure of 1.7 MPa for methane and hydrogen was observed from both experiment and theory.
4. This DDT theory should be of practical interest to engineers designing and assessing petrochemical plants.

Download English Version:

<https://daneshyari.com/en/article/11026495>

Download Persian Version:

<https://daneshyari.com/article/11026495>

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