

Accepted Manuscript

A Direct Numerical Simulation analysis of pressure variation in turbulent premixed Bunsen burner flames-Part 1: Scalar gradient and strain rate statistics

M. Klein , D. Alwazzan , N. Chakraborty

PII: S0045-7930(18)30107-5
DOI: [10.1016/j.compfluid.2018.03.010](https://doi.org/10.1016/j.compfluid.2018.03.010)
Reference: CAF 3771



To appear in: *Computers and Fluids*

Received date: 13 September 2017
Revised date: 13 February 2018
Accepted date: 1 March 2018

Please cite this article as: M. Klein , D. Alwazzan , N. Chakraborty , A Direct Numerical Simulation analysis of pressure variation in turbulent premixed Bunsen burner flames-Part 1: Scalar gradient and strain rate statistics, *Computers and Fluids* (2018), doi: [10.1016/j.compfluid.2018.03.010](https://doi.org/10.1016/j.compfluid.2018.03.010)

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

- Parametric analysis of high pressure Bunsen burner flames using DNS
- Mean values of scalar gradient and strain rate are unaffected by pressure change
- High pressure flames are likely to exhibit the Darrieus-Landau (DL) instability
- The DL instability affects dilatation rate and tangential strain rate statistics
- Modelling implications for elevated pressure flames have been discussed

ACCEPTED MANUSCRIPT

Download English Version:

<https://daneshyari.com/en/article/8942119>

Download Persian Version:

<https://daneshyari.com/article/8942119>

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