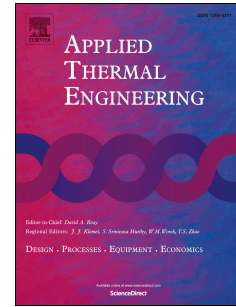


Accepted Manuscript

Numerical Simulation of Oxy-fuel Combustion for Gas Turbine Applications

G.C. Krieger, A.P.V. Campos, M.D.B. Takehara, F. Alfaia da Cunha, C.A. Gurgel Veras



PII: S1359-4311(15)00003-4

DOI: [10.1016/j.applthermaleng.2015.01.001](https://doi.org/10.1016/j.applthermaleng.2015.01.001)

Reference: ATE 6267

To appear in: *Applied Thermal Engineering*

Received Date: 12 March 2014

Revised Date: 2 December 2014

Accepted Date: 1 January 2015

Please cite this article as: G.C. Krieger, A.P.V. Campos, M.D.B. Takehara, F. Alfaia da Cunha, C.A. Gurgel Veras, Numerical Simulation of Oxy-fuel Combustion for Gas Turbine Applications, *Applied Thermal Engineering* (2015), doi: 10.1016/j.applthermaleng.2015.01.001.

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.

Numerical Simulation of Oxy-fuel Combustion for Gas Turbine Applications

Authors:

G. C. Krieger¹ - corresponding author

Phone: 55-11-30919662

guenther@usp.br

A. P. V. Campos¹

M. D. B. Takehara¹

F. Alfaia da Cunha²

C. A. Gurgel Veras²

Affiliation

¹Departament of Mechanical Engineering, University of São Paulo (USP), Brazil

²Mechanical Engineering Department, University of Brasília (UnB), Brazil

HIGHLIGHTS

- A gas turbine combustion chamber model was numerically simulated;
- The numerical model was validated against experimental data for isothermal flow;
- CCS technology based on oxy-fuel combustion for propane and syngas were studied;
- The syngas cases showed improved pattern factors compared to the Propane/Air case;
- The oxy-fuel combustion based on syngas seemed adequate for CCS technology.

ABSTRACT

Relevant reduction on worldwide greenhouse gases emissions shall be based on more efficient power generation systems linked to a carbon capture and storage technology (CCS). Integrated gasification combined cycle and natural gas combined cycle (IGCC) would play an effective role to these objectives. To that, oxy-fuel combustion is an important alternative for the implementation of CCS technology,

Download English Version:

<https://daneshyari.com/en/article/7048968>

Download Persian Version:

<https://daneshyari.com/article/7048968>

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