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Comparison of flame transfer functions of acoustically forced planar premixed hydrogen and methane flames

In this work we present numerical simulations of the response of planar premixed methane and hydrogen flames to acoustic perturbations. A detailed chemical mechanism is used which accounts for OH* formation and de-excitation via collisional quenching and light emission. The obtained transfer functions for heat release rate and OH* chemiluminescence emission rate are compared for the two fuels. The differences between the signals and the consequences for the measurement of heat release rate fluctuations important for thermoacoustic instabilities are discussed in the talk.

C. Jiménez
Centro de Investigaciones Energéticas, Medioambientales y Tecnologicas, Avenida Complutense, 22, 28040, Madrid, Spain
carmen.jimenez@ciemat.es

Jonas Moeck
Laboratoire EM2C, École Centrale Paris et C.N.R.S., Grande Voie des Vignes, 92295 Châtenay-Malabry Cedex, France
moeck@em2c.ecp.fr

Heiko Schmidt
BTU Cottbus, Siemens-Halske-Ring 14, D-03046 Cottbus, Germany
schmidt@tu-cottbus.de

Topic 1: **CP13: Flame Modeling and Interactions**
Topic 2: **CP6: Flames**

SESSSION: _____