عنوان مقاله:

STUDY OF A TURBULENT NON-PREMIXED METHANE-AIR REACTING FLAME IN A BURNER USING FLAME HOLDER

محل انتشار:

چهارمین کنفرانس احتراق ایران (سال: 1390)

تعداد صفحات اصل مقاله: 11

نویسندگان:

S. Abdolmehi Hashemi - *Department of Mechanical Engineering, University of Kashan*

Najmeh Hajialigol - *Department of Mechanical Engineering, University of Kashan*

Kiumars Mazaheri - *Department of Mechanical Engineering, Tarbiat Modares University of Tehran*

خلاصه مقاله:

Beta Probability Density Function (β-PDF) model is applied to investigate the turbulent nonpremixed combustion flow, including species concentrations and temperature, in a burner. Gaseous methane(CH4) is injected at the centre of the burner inlet. Air is supplied through the surrounding of this fuelinlet. The governing equations are solved by a finite volume approach and are discretized with the second order upwind scheme. The Realizable k-ε turbulence model is applied to model turbulence. The Discrete Ordinate radiation heat transfer method is also used. The values of the species mole fraction, temperature anddensity, which are the functions of the mixture fraction, are determined by integration over a β-PDF. In this study wall as a flame holder is used to stabilize the flame

کلمات کلیدی:

Flame holder, Turbulence model, PDF model, Numerical simulation