

## List of Co-flow flames for the ISF datase

### 5. S. De Iuliis Burner Data (Non-smoking, co-flowing diffusion ethylene flame)

Burner description (from S. De Iuliis et al. 1998):

The burner is a annular circular burner with a 10 mm inner diameter and 110 mm outer diameter. The annular region contains a honeycomb region to make the air flow as laminar as possible. The flame is shielded with a Plexiglas cylinder which has flat quartz windows. Burner is attached to a motorized table that moves in the XZ directions, which allows measurements to be obtained with a 0.1 mm step size in each direction. There are two mass flow meters which control the flow of air and fuel supply.

#### Conditions

Ethylene Sooting Flame non-smoking

Fuel: Ethylene

Oxidizer: Air

Fuel flow rate: 2.5 cm<sup>3</sup>/s

Fuel velocity: 3.18 cm/s

Oxidizer flow rate: 125 cm<sup>3</sup>/s

Oxidizer velocity: 1.61 cm/s

Reference S. De Iuliis, M. Barbini, S. Benecchi, F. Cignoli, G. Zizumbo, *Combustion and Flame*, 115(1998) 2531.