

### Topic

Radiative Heat Transfer with FDS - FM Burner under different oxygen environments

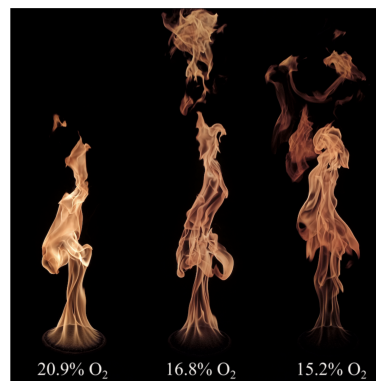
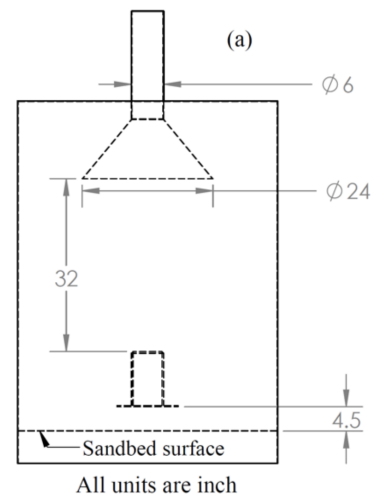
### Background

Fire Spread phenomena are extremely complex and makes it challenging for modelers, but also for experimentalists, to provide reliable and correct predictions (or validation data). Further challenges arise due to the modeling of radiative heat transfer with standard and reduced oxygen ambient conditions.

For this thesis the **FM Burner** case will be calculated with **FDS**. The aim is to evaluate the impact of different radiation modeling parameters on the resulting radiative heat transfer to the surrounding.

This work is part of the international workshop MaCFP, where researchers discuss and compare results from different participants for the same experimental scenario.

Further information about the available experimental and simulation data is available here: [https://github.com/MaCFP/macfp-db/tree/master/Extinction/FM\\_Burner/Documentation](https://github.com/MaCFP/macfp-db/tree/master/Extinction/FM_Burner/Documentation)



### Main Steps

1. Get familiar with experimental setup and existing simulation results
2. Create initial FDS setup with all needed material settings and post-processing devices
3. Mesh study
4. Evaluate the impact of radiation solver settings

### Tools

- FDS (or OpenFOAM/fireFoam)

### Requirements

- High motivation
- Interest in CFD and Fire Simulation