



## Study of flames in the thickness of a Hele-Shaw cell

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Premixed flames propagating in a Hele-Shaw cell have been used to study very unstable flames. In this configuration, the front is quasi-two-dimensional and in the case of hydrocarbons can be visualized simply by using a camera in front of the cell. However, when the thickness of the cell increases or for hydrogen flames, the behavior of the flame in the thickness can become more complicated. Experiments and simulations showing different possible shapes in the thickness will be presented. The role of the thickness on the effective instability seen in the front view is also important and leads to friction terms, with an instability caused by Saffman Taylor and Darrieus Landau instabilities. We will discuss the role of friction for realistic values of the thickness.