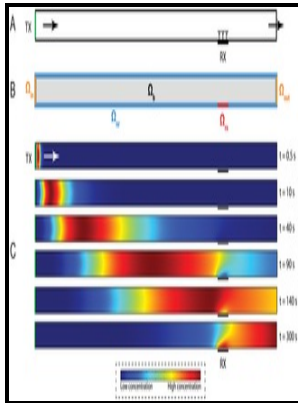# Studies in convective diffusion in confined laminar flows.

University of Salford - Laminar Flow Forced Convection in Ducts

Description: -

-Studies in convective diffusion in confined laminar flows.

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D16969/76Studies in convective diffusion in confined laminar flows.
Notes: PhD thesis, Chemical Engineering.
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Tags: #Local #Burning #Rates #and #Heat #Flux #for #Forced #Flow #Boundary

Numerical study of methanol flames in laminar forced convective environment using short chemical kinetics mechanism

Varying the convective Mach shows that compressibility does not change the general structural features of the mixing process, although higher compressibility results in a slower transition between the various flow regimes. It has been accomplished by modification of the ReactingFOAM application source code of the OpenFOAM-2. Chaotic advection in three-dimensional unsteady incompressible laminar flow.

Three

It becomes impractical to describe the interface itself, but the exponential nature of mixing allows us to define typical timescales of mixing as expressed, for example, by the increase in interfacial area. Residence Time Distribution Models Derived from Non-Ideal Laminar Velocity Profiles in Tubes.

CFD studies of soot production in a coflow laminar diffusion flame under conditions of micro

For example, when methane burns, it involves not only the destruction of methane and oxygen but also the creation of carbon dioxide and water vapor.

Heat transfer in laminar and turbulent flows in the thermal entrance region of concentric annuli: Axial heat conduction effects in the fluid

Using the equality of Eq.

Convective Heat Transfer to a Confined Impinging Array of Air Jets With Spent Air Exits

The variations in the heat release properties and relevant key reactions with H 2 addition were analyzed. The results of the different values of gravity obtained are compared with the normal value of gravity and we ascertain that the results obtained were satisfactory and show the ability of the code to predict the speed and temperature of the formation of soot, their concentrations and their volume fractions.

Experimental study on laminar flow over two confined isothermal cylinders in tandem during mixed convection

Thus diffusion of a dissolved substance through a region in which the solvent is confined produces continual streaming in the latter.

Mixing Regimes in a Spatially Confined Two

Determination of kinetics of percarboxylic acids synthesis in a microreactor by mathematical modeling. . The obtained exact analytical solutions for the Graetz problem with axial heat conduction are as simple to compute as the related solutions of the parabolic problem.

Three

Effect of axial diffusion on impurity adsorption in a circular tube. Viscous flow in a porous membrane is not by itself very efficient regarding selectivity in a mixture separation, since the main hydraulic mechanism of separating the species is the differential driving of the species molecules toward the center or the edges of the pores. Passive scalars, 3-dimensional volume-preserving maps and chaos.

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