Formulation of test cases

Test platform :

Parsytec Power GC–128 (MIMD) at TU Chemnitz–Zwickau

- node processors : Motorola PowerPC 601–80
- max. number of processors : 128
- node memory : 32 Mb
- OS : Parix 1.2–PPC
- Communication library : Power–PVM 1.1

Test case 1 :

2–dimensional, downward directed channel flow

⋆ rectangular duct; $H/L = \frac{1}{6}$

⋆ homogenous inlet conditions; $u_{F0} = -2\ m/s$

⋆ $u_{P0} = -2\ m/s$; $v_{P0} = -0.4 \ldots 0.4\ m/s$; $d_P = 100 \ldots 300\ \mu m$

Test case 2 :

2–dimensional, axisymmetric, upward directed pipe flow around a full–cone nozzle

⋆ $R/L = \frac{1}{6}$; location of the nozzle on the symmetry axis at $x = \frac{1}{3}\ L$; cone angle of 90°

⋆ homogenous inlet conditions for the fluid with $u_{F0} = 4\ m/s$

⋆ $v_{P,abs} = 8\ m/s$; $d_P = 30 \ldots 1400\ \mu m$