Modelling of glass forming processes
organiser: R.M.M.M. Mattheij

Abstract

Glass is an interesting material which, despite its abundance
in daily life usage, poses a number of still challenging questions.
The problems arise from the production of the glass melt
till the final morphology process of various products
(packing glass, pane, fibres, crt's).
The mathematical problems are realted to solving the
standard conservation laws of mass, momentum and energy.
Glass can be considered to be Newtonian and imcompressible.
The main complication is in the coupling
of momentum equation with the with energy equation, as
the viscosity is exponentially depending on the temperature.
Another complication is the fact that there are free and moving boundaries.
This minisymposium will consider various aspects of this morphology
process. The first speaker (S. Nefedov, Eindhoven)) will discuss
some simple models for the flow in the glass tank.
The three other speakers will all consider the forming of glass products.
B. Maury (Paris) will talk about free surface flows. The third speaker
(S. Manservisi, Oxford)) will have a talk on sagging of wind screens
and the last speaker (K. Laevsky, Eindhoven) will discuss
morphology of a parison for bottles.