PROJECT LEADERS
C Vuik, FJ Vermolen

RESEARCH THEME
Complex dynamics of fluids

PARTICIPANTS
Ibrahim, Vermolen, Vuik

COOPERATIONS
TUD, TNO Science and Industry

FUNDED
Nuffic
1st 25% 2nd 50% 3rd 25%

START OF THE PROJECT
2007

INFORMATION
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PROJECT AIM

Develop numerical methods for industrial flow problems.

PROGRESS

A new method to solve multi-phase fluid flow problems is developed. Dynamic modeling of thermal processes with phase transition by means of the density-enthalpy phase diagram for spatially homogeneous systems. Until now, preliminary results for two spatial dimensions have been obtained. This method eliminates the requirement of different sets of equations for various phases and necessitates fewer assumptions. For spatial domain discretization, we use finite elements.

DISSERTATIONS

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SCIENTIFIC PUBLICATIONS

1. Ibrahim, C. Vuik, F. J. Vermolen, and D. Hegen. Numerical Methods for Industrial Flow Problems, Report at DIAM (08-13), Delft University of Technology, 2008.