

FLOTATION AND DE-MIXING OF TURBULENT 3-PHASE FLOWS

PROJECT AIM

The aim of this research proposal is to investigate how large gas bubbles rising through a turbulently flowing liquid-particle suspension interact with the particles of the suspension. More specifically, we will investigate how the solid particles adhere to the surfaces of the bubbles, or get entrapped in the wakes of the bubbles, both leading to an upward transport of the particles. This mechanism, called flotation, is primarily investigated by experimental methods.

PROGRESS

During the first half of 2008 most of the time was spent on test measurements and evaluation of the measured data (characterization of the experimental facility, single phase measurements, measurements in the wake of a solid spherical-cap model). In July 2008 the first 2-phase measurements were done, using the same spherical-cap model. Together with some more 1-phase measurements and improvements of the measurement procedures (alignment of the 2-camera setup, tracer tests), this continued until the end of the year. In December 2008 the 2-phase measurements of one particle type, which will be presented together with results measured 2009 at the ETC12 conference, were finished.

DISSERTATIONS

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SCIENTIFIC PUBLICATIONS

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PROJECT LEADERS

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RESEARCH THEME

Complex dynamics of fluids

PARTICIPANTS

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COOPERATIONS

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FUNDED

STW, Corus RD&T
1st - 2nd 75% 3rd 25%

START OF THE PROJECT

2007

INFORMATION

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