MICROGRAVITY SCIENCES AND PROCESSES SYMPOSIUM (A2)
Microgravity Experiments from Sub-Orbital to Orbital Platforms (3)

Author: Prof. Stefan Van Vaerenbergh
Université Libre de Bruxelles, Belgium, svanvaer@ulb.ac.be

Mr. M. Mojahed
Belgium, mmojahed@ulb.ac.be
Mr. Quentin Galand
Université Libre de Bruxelles, Belgium, qgaland@ulb.ac.be
Mr. Naïm Rahal
Université Libre de Bruxelles, Belgium, nrahal@ulb.ac.be
Prof. Raffaele Savino
University of Naples "Federico II", Italy, raffaele.savino@unina.it

SOME EXPERIMENTAL PROGRESSES IN THE STUDY OF SELF-REWETING FLUIDS FOR THE SELENE EXPERIMENT TO BE CARRIED IN THE THERMAL PLATFORM 1 HARDWARE

Abstract

S. Van Vaerenbergh, M. Mojahed, Q. Galand, N. Rahal, R. Savino

The Thermal platform 1 hardware is to be installed in the FSL facility. The first and main experiment of it is the SELENe experiment on self rewetting fluids used for the enhancement of the heat transfer. Self rewetting fluids allows to enhance the heat transfer and also to mitigate the risk of apparition of dry patches. This was proposed in the frame of the AO 2009 by R. Savino et al. Such fluids are mixtures. The physico-chemical hydrodynamic processes involved are more complex than for pure fluids. We present here part of the studies of these physico chemical aspects started in support and as part of SELENe program. Complementarity between space experiment and ground based experiments is considered. Ground based experimental set-up has been developed for this purpose and some results for the selection of the fluid candidates are presented.