

MICROGRAVITY SCIENCES AND PROCESSES SYMPOSIUM (A2)
Microgravity Sciences Onboard the International Space Station and Beyond - Part 2 (7)

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CONTAINERLESS PROCESSING ON ISS: EXPERIMENT PREPARATION FOR EML

Abstract

EML is an electromagnetic levitation facility built for the ISS aiming at processing liquid metals or semiconductors under microgravity and thus reduced electromagnetic field and convection conditions. Its diagnostics and processing methods allow to measure thermophysical properties in the liquid state and to investigate solidification phenomena. EML is built as a class 2 payload for the European Drawer Rack inside the Columbus Module. Its launch is scheduled with ATV-5 in June 2014. EML commissioning is planned to be performed in September 2014 and will be followed by a first batch of five scientific experiments. The Microgravity User Support Centre MUSC at Cologne, Germany, has been assigned the responsibility for EML operations under ESA contract. For the EML operation preparation, an extensive scientific-technical ground support program was established at MUSC with the goal to provide services in the preparation, performance and evaluation of the experiments. Its final output is the transcription of the scientific goals and requirements into validated facility control parameters for the experiment execution onboard the ISS. The presentation will detail the flow of the EML operations preparation for the first batch of experiments as well as the status of actual on-orbit activities such as installation and payload commissioning will be provided.