

MICROGRAVITY SCIENCES AND PROCESSES SYMPOSIUM (A2)  
Microgravity Sciences Onboard the International Space Station and Beyond - Part 1 (6)

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CONTAINERLESS PROCESSING ON ISS: STATUS OF EXPERIMENTS IN ESA'S EML, THE  
ELECTROMAGNETIC LEVITATOR

**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 resides in the European Drawer Rack inside the Columbus Module and onboard the ISS since June 2014. The payload was developed by an industrial consortium under the leadership of Airbus DS on behalf of the European Space Agency. After on-orbit assembly, installation and commissioning, EML is in use for science runs since April 2015. The first batch comprises of approximately 600 individual experiments on 18 metals and alloy systems. The Microgravity User Support Centre MUSC at Cologne, Germany, has been assigned the responsibility for EML operations under ESA contract and operates the experiments on behalf of the international science community. The presentation will show lessons learned from initial EML science operations, detail the on-orbit status of the first batch of experiments and provide a summary of the preparation for the second experiment batch to be started late in 2016.