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EDR/EML INTEGRATION CAMPAIGN AND LESSONS LEARNT

Abstract

The Electro Magnetic Levitator (EML) is a Class II Payload (designed and developed by Airbus DS under an ESA/DLR contract) now housed inside the European Drawer Rack (EDR) on board Columbus, the European Module part of the International Space Station. EML main purpose is the investigation of metal alloy properties in micro-gravity conditions, supporting basic and industrial research. EDR is providing the hardware and software interfaces and routing the available ISS services to allow EML operations. Current EDR/EML operations scenario foresees about five years of activity and research. TAS, as responsible Payload Integrator for EDR (in scope with TAS involvement in the ISS Exploitation program activities), has been in charge to coordinate the integration activities, collaborating with ESA and the EML Developer (EADS DS Friedrichshafen) and the Columbus Integrator (EADS DS Bremen) to ensure that the proper EML to EDR hardware and software interfaces were developed and thoroughly tested before the EML launch. The paper will focus on the engineering approach followed during the payload integration phase (embedded in most of the EML C/D phase) and on the identification of the lessons learnt that are deemed significant for improvement or modification of the process for future class II P/Ls integration campaigns in European facilities.