Contribution ID: **43** Type: **Physical Poster shown at the Meeting**

POD pipeline optimization and containerization

It is here described a development activity in the context of ICSC Spoke 2, WP3, use case UC 2.3.6, “Data processing pipeline optimization for space and ground based experiments”, and named “Pipeline for space gravity missions”. The main objective is the development of methodologies and expertise for the optimization and management of pipelines for precise orbit determination (POD) of Earth-orbiting satellites. Starting with a well-defined reference case (centered on an already existent pipeline based on the POD software Geodyn II), it has been carried out an optimization of the pipeline itself and it has been created a containerized environment for it. The optimization has been conducted by enhancing run preparation, refining result extraction, and expanding the use of Python-based tools. The Docker-based containerization provides precise control over the computational environment and ensures an easy portability of the entire pipeline. Moreover, verification tests validating the correct execution of the code are embedded in the Docker image build process. Details for both aspects are provided.

INFN OpenAccess Repository link

Author: Dr MARMO, Nicola (INAF-IAPS)

Co-author: PERON, Roberto (Istituto Nazionale di Fisica Nucleare)

Session Classification: POSTER AND VIDEO UPLOAD