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ADVANCES IN AUTOMATIC MISSION PLAN GENERATOR LANGUAGE

Abstract

Mission operations software in this context refers to the software technologies used to manage tasks that astronauts and robots do in a mission. In the creation of a short and long-term plan this tools are been used extensively by Mission Operations Directorate (MOD), like the On-Board Short Term Plan Viewer (OSTPV) and EUROPA platform timeline based IA Planning. The *Automatic Mission Plan Generator System* (AMPGS) is a concept of architecture design for mission control and planning. It consist of a language specification: the *Nested Mission Plan Generator Language* (NMPGL), and software implementations that interpret the language and form an ecosystem of applications adapted for specific tasks of mission management. Here we present advances and tests in development of the specification schema of NMPGL. The first time this language was presented was at IAC 2019 Space Operations Symposium. A number of improvements are been made to the kernel since then, and simulated tests have been executed. We show here the updated version and results of tests. We also introduce a software implementation for NMPGL capable of interpret instructions in this language. Some simulated missions are shown in order to illustrate the use and functions of this software. This applications are intended to be open source and free, since AMPGS is oriented to be accessible for low cost projects in Universities and developing countries.