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From Earth Missions to Deep Space Exploration (05)
Exploration Research and Technologies (2)

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APPLIED MATHEMATICAL METHODS FOR THE PILOTED TRANSPORT SHIP CREW'S SAFETY DURING THE PREPARATION STAGE

Abstract

It is common knowledge nowadays that space is number one priority in global scientific researches. We send to outer space more and more ships, satellites and people as well. Their missions become more and more complicated in order to feed mankind's thirst for knowledge, but yet our prime task is to ensure their safety on every stages of the flight. It is not enough to check security of the spacecraft, launcher or technical complex, because common human safety also made up of crews and staff training, proper technical compilation, adverse conditions of outer space, healthiness of crew's members, process organization and many other factors. So, to achieve our goal, one's must take all this into consideration and develop new type of solution in system environment-human-vehicle. For single out factors that could influence pilot's safety we use decision-making theory and built mathematical model for acceptable crew risk level. This paper shows some parts of the model for safety ensuring during the preparation stage of the flight. It makes some point that unknowns, probability parameters and human factor are quite important for solving the prognostic task.