

Entering into Space and New Energy and Propulsion Technology (7)

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## RESEARCH AND IN-FLIGHT EXPERIMENT OF ADN-PROPULSION TECHNOLOGY FOR SATELLITE APPLICATION

### Abstract

The safe, green propulsion is widely studied for its advantage, and the novel technology of the liquid Ammonium Dinitramide(ADN) propulsion is researched for its high working performance. The research on ADN-propulsion is presented in this paper, including the ADN monopropellant, ADN-Thruster, the propulsion system and test. From the research we can know that ADN-propulsion technology works with the principle of mono-propulsion system and has a better performance than hydrazine does. Also, the in-flight experiment which was carried out on SJ-17 satellite in the year of 2016 is described here. The in-flight performance of ADN-propulsion system is validated from the experiment, such as the thrust, specific impulse, the stability of the performance, and so on. And the data shows that the in-flight performance is consistent with that of ground test. In the end, the application object and further research of ADN-propulsion technology is stated.