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THE THOMAS PESQUET PROXIMA MISSION: AN OVERVIEW OF ACCOMPLISHMENTS AND
SCIENCE RESULTS

Abstract

The Proxima Mission of ESA Astronaut Thomas Pesquet began with the launch of the 49 Soyuz (49S) from the Baikonur Cosmodrome on 17 November 2016 (GMT322) at 20:20 GMT. Following a nominal 34-orbit rendezvous, the 49S docked with the Rassvet module on the International Space Station on 19 November 2016 (GMT324). Along with ESA crewmember Pesquet were Russian crewmember Oleg Novitsky and US crewmember Peggy Whitson. The Proxima mission concluded on 02 June 2017 (GMT153) after Pesquet spent 196 days in low earth orbit. This paper gives an overview of the Proxima mission and the thirty-nine ESA objectives conducted during this time – ranging from human physiology to material science, from robotics demonstrations to educational outreach activities. On-board and ground activities are described, crew-time is analyzed, and scientific results are compiled. Five years after the completion of Proxima, we review the results of this research.