

IAF SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Upper Stages, Space Transfer, Entry & Landing Systems (3)

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NOVEL APPROACHES TO OCEAN LANDING RECOVERY FOR SPACECRAFT AND PAYLOADS

Abstract

Ocean landing recovery for spacecraft and payloads presents a critical aspect of space missions, particularly for crewed missions returning from space. This abstract explores innovative approaches to ocean landing recovery, addressing challenges and proposing novel solutions to enhance safety and efficiency. Traditional ocean landing recovery methods, such as splashdowns using parachutes, have served as reliable means for returning spacecraft and payloads to Earth. However, advancements in technology and the evolving needs of space exploration necessitate the exploration of new techniques to improve upon existing recovery systems. This abstract delves into a range of novel approaches, including the utilization of inflatable structures and airbags to cushion the impact of ocean landings and the integration of advanced materials and buoyancy systems to enhance flotation and stability upon landing. Collaborative efforts between space agencies, maritime organizations, and industry partners are crucial for advancing ocean landing recovery capabilities. By sharing expertise, resources, and best practices, it is possible to accelerate the development and adoption of innovative approaches to ocean recovery, ensuring the continued success of space missions. This abstract underscores the importance of ongoing research and innovation in ocean landing recovery, highlighting the potential for novel approaches to enhance safety, reliability, and efficiency in bringing spacecraft and payloads safely back to Earth from the depths of the ocean.