

Message

ISRO'S Pad Abort Test Mission

ISRO demonstrated a major technology related to Crew Escape System (CES) with a Crew Module (CM) on 5 July 2018 as part of the Human Space Flight Programme capability development. This was to prove the emergency escape measure designed for the Crew Module along with the astronauts to a safe distance from the launch vehicle in the case of an eventuality during launch or during venting period at launch pad. During this demonstration, aerodynamic static margin with and without solid motor plume, re-orientation characteristics of the Crew Module, performance of the parachute system were thoroughly assessed. The flight demonstration was conducted from Sounding Rocket Complex at Sathish Dhawan Space Centre, Sriharikota. The entire mission was completed in 260 seconds during which the CES along with CM separated from the launch vehicle simulator at launch pad. Further, the CM was separated from the CES using specifically designed quick acting solid motors with a peak acceleration of 10 g to a safe distance. Subsequently, parachutes were deployed at an altitude of 3 km to bring the Crew Module over the Bay of Bengal. Finally, the CM was recovered using three boats. In the entire mission, nearly 330 sensors were employed to record

numerous mission parameters, and the mission was a success meeting all the objectives. This mission was possible only due to the hard efforts of ISRO employees, Indian industries, and the academia.

The hard earned technical knowledge both from design as well as realization phases, and the flight experience certainly add new dimensions that need to be disseminated among research scientists and the technocrats around the sphere. For this, 12 technical papers encompassing various critical zones are identified, and it is heartening to notice that the *Current Science* journal brought out the findings as a special section that would promote the understanding of the technical intricacies.

At this juncture, I would appreciate the Chief Editor, *Current Science*, for his efforts to bring out this special section on ISRO's Pad Abort Test. Also, valuable suggestions by B. N. Suresh and T. K. Alex to improve the standard of the manuscripts are acknowledged. The spark given by Shri S. Somanath, Director, VSSC for initiating the technical manuscripts is also well acknowledged. Finally, the authors who spent time to prepare the manuscripts at an international standard are acknowledged.

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