Messages

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MESSAGE

Bringing down the cost of access to space has been an activity demanding attention of space agencies. Many countries paid attention to realize viable concepts to recover the hardware and reuse the same in multiple missions. One of the strategies is to use Reusable Launch Vehicle (RLV) which is emerging as a possible candidate for recovery of the upper or lower stages. Generally, RLV is a winged body geometry that carries the payload to the specified orbit and returns and lands on a specified location. Hence, unlike the conventional launchers, RLV encounters many technical challenges in terms of aerodynamics, aero-thermo dynamics, control systems, materials, etc. Towards this, Indian Space Research Organisation (ISRO) has been pursuing the RLV technology to achieve two-stage to-orbit (TSTO) launch capability.

On 23 May 2016, ISRO crossed a landmark of launch of RLV technology demonstrator covering hypersonic to subsonic regimes and did a virtual landing on the sea. Being a new vehicle, many facilities were developed to qualify various components such as, materials, control systems, thermal protection systems, etc. During the flight of winged re-entry vehicle from hypersonic to subsonic regions, a tome of data were generated for aerodynamics, stability, control, materials, thermal, etc., through different modes. Nearly 1000 flight measurements were carried out to have a data bank to gain confidence to master the RLV technology.

It is heartening to note that *Current Science* is bringing out a special section on ISRO's RLV flight experiment to disseminate its scientific findings. I am sure that the content of this special section encompassing aerodynamics, aero-thermodynamics, structure, navigation, guidance and control, quality assurance and system reliability aspects will certainly attract the attention of researchers to a large extent. I appreciate the efforts made by the editorial team in bringing out this special section.

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(A. S. Kiran Kumar)
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