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Spaceflight may be received worldwide by mail through membership of the British Interplanetary Society. Details including Library subscriptions are available from the above address.

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Spaceflight is obtainable from UK newsagents and other retail outlets in many countries. In the event of difficulty contact: Warners Group Distribution, The Maltings, Manor Lane, Bourne, Lincolnshire PE10 9PH, England.

Tel: +44 (0)1778 391 000

Fax: +44 (0)1778 393 668

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Published monthly by the British Interplanetary Society. Registered Company No: 402498. Registered Charity No: 250556. Printed in the UK by Latimer Trend & Company Ltd.

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Mission

The British Interplanetary Society promotes the exploration and use of space for the benefit of humanity, by connecting people to create, educate and inspire, and advance knowledge in all aspects of astronautics.

Published by the British Interplanetary Society

Volume 59 No. 11 November 2017

**411 Sizing launch vehicles**

Superlatives reign supreme when manufacturers and launch vehicle providers speak of their rockets but just what are the parameters that define, small, medium, heavy or super-heavy rockets? FACTCHECKER answers that question and asks just how do the claims add up?

**412-415 Countdown to Falcon Heavy**

SpaceX is getting set to fly its super-heavy rocket, as audacious in its goal as anything launched to date by this entrepreneurial company. We assess the challenge and the risk and rate it against competitors as Elon Musk boasts bold new objectives.

**416-423 Thunder at the Cape**

Fifty years ago, in November 1967, NASA took a giant leap forward with the launch of the world's biggest rocket, the Saturn V. Spaceflight begins its "Apollo at 50" coverage with a report on this remarkable event and provides detailed parametric information about the flight itself.

**424-429 Navigating the Solar System**

Charley Kohlhasse reflects on a life supporting deep-space navigation. Kohlhasse was awarded the NASA Distinguished Service Medal in 2003 for an outstanding career of mission design achievements from the Mariner, Viking, Voyager, and Cassini planetary exploration programmes.

**430-431 Saving the Geostationary Orbit**

Stuart Eves, the lead mission concepts engineer at Surrey Satellite Technology Ltd, presents a disturbing view of physical forces first observed in the behaviour of asteroids to the life – and death – of geostationary satellites, posing explanations for their demise.

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Cover image: Apollo 4 in place on LC-39A the night before launch. Note the raised flame trench 13 m above the surface, which could not be sunk below ground level due to the high water table. NASA-KSC