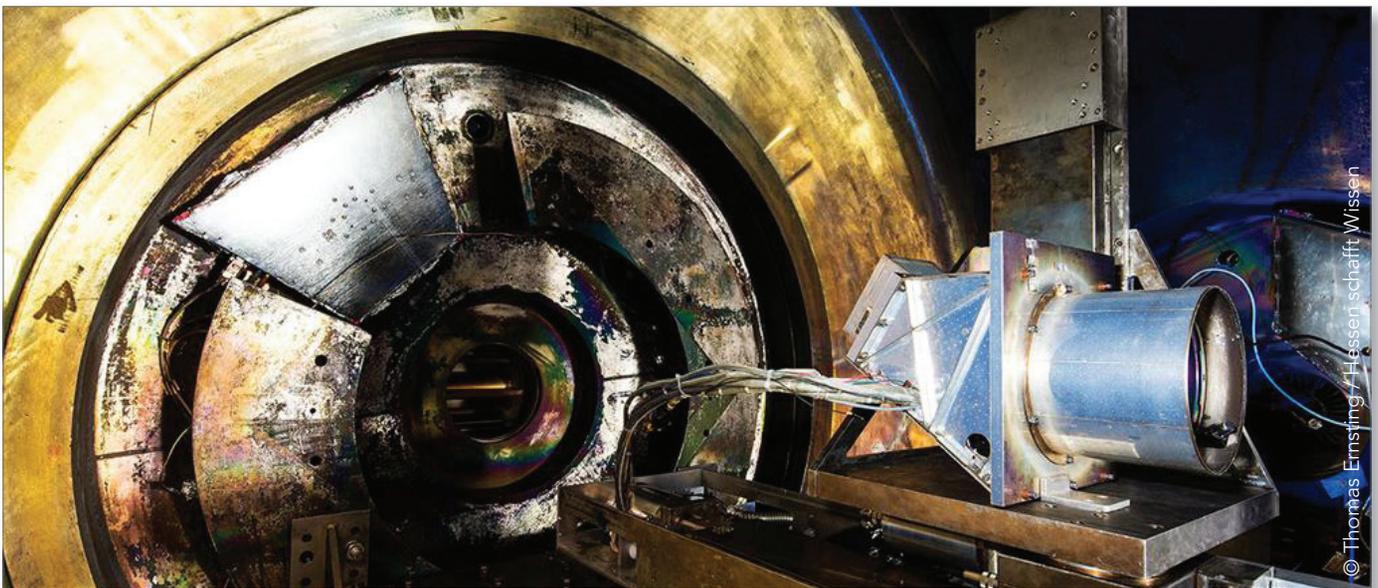


# LOEWE Research Cluster RITSAT

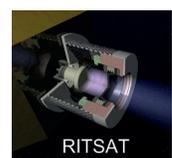
Ion Thrusters for Space Travel – Plasma Physics  
and Future Technologies

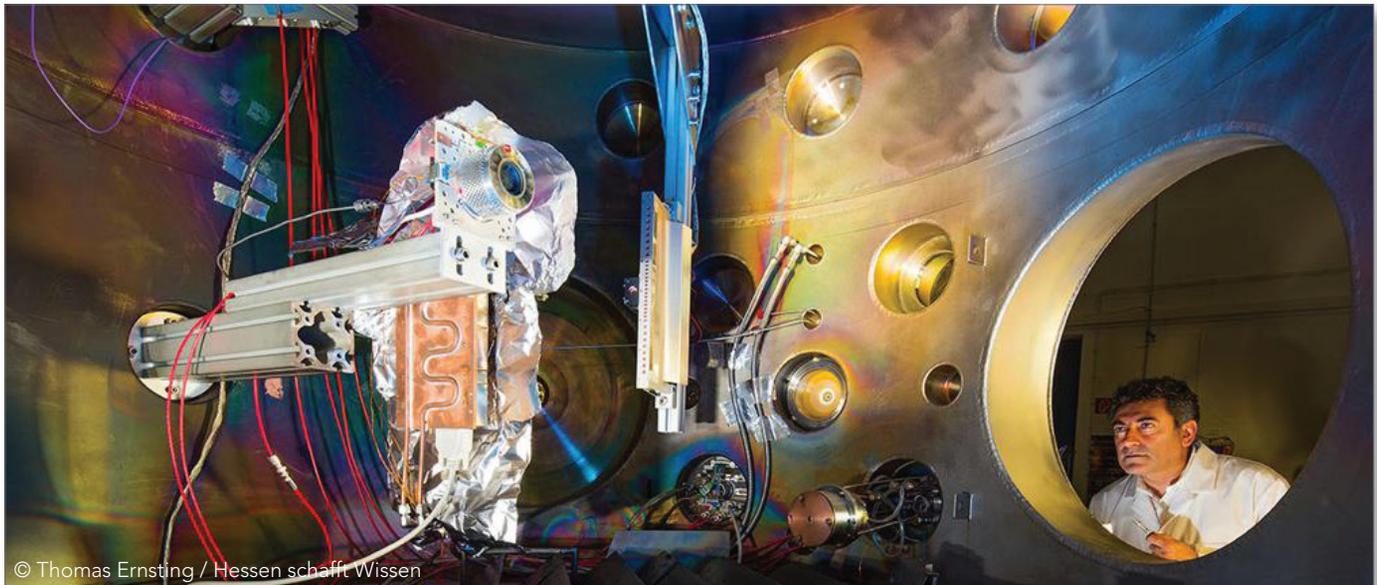


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## Fast and reliable: ion thrusters for space travel

Ion thrusters are the marathon runners of the engines designed for space travel. They have relatively low levels of thrust and therefore, unlike chemical thrusters, are not well suited to transporting space probes or satellites into space. However, their endurance capacity and precision ensure the manoeuvrability of spacecraft in outer space and make it possible to overcome interplanetary distances. The application of ion thrusters in the removal of space debris such as disused satellites or upper rocket stages is now also a possibility; impulses transmitted to objects propel them out of the earth's orbit. The LOEWE research cluster RITSAT is developing and testing new and highly specialised ion thrusters. The contractually agreed cooperation with the German Aerospace Center (DLR) in Göttingen and Airbus safeguards the continuation of the foundational research on ion thrusters once the LOEWE funding has expired. The Technische Hochschule Mittelhessen will continue to participate in the development of electronic components through cooperative doctoral projects.





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**LOCATION**

Giessen

**SUBJECT AREAS**

Plasma physics  
Aerospace physics  
Materials science  
Micro and nanotechnology

**FUNDING PERIOD**

2012 to 2014

**COORDINATION OFFICE**

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## LOEWE and ProLOEWE

Since 2008 the German federal state of Hessen has been promoting outstanding research initiatives through its own excellence programme, LOEWE. To date, 11 LOEWE research centres and 35 LOEWE research clusters have been selected in a competitive process to receive funding.

ProLOEWE is the LOEWE research initiatives network: their common aim is to provide information about their activities, speed up access to their research and intensify their cooperation. The website [www.proloewe.de/en](http://www.proloewe.de/en) provides an overview of the LOEWE research initiatives.