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SPACE SYSTEMS

FOAM-C: Airbus now ‘foaming’ on board the International Space Station

New experiment to study the behaviour of foams under zero-gravity conditions



Friedrichshafen, 03 March 2020 – Airbus has sent a new fluid experiment, FOAM-C, to the International Space Station (ISS). FOAM-C, which was developed and manufactured for the European Space Agency (ESA), is scheduled to be activated this month by astronaut Jessica Meir, who has been on the ISS since September 2019.

The FOAM-C experiment studies the stability of foams away from the influence of Earth's gravity. The scientists are interested in the behaviour of the foams at different liquid fraction and in particular around the point of un-jamming (transition from a solid-like to liquid-like structure), which can be studied only in microgravity.

In addition this experiment might provide useful insights for the manufacture, use and ageing behaviour of foams, which are utilised in a wide range of areas, including in cosmetics and personal-hygiene products, in the food industry, in cleaning products, sealing products and for firefighting.

The FOAM-C experimental set-up comprises five segments with a total of 20 small test cells containing a variety of liquid mixtures. The Fluid Science Laboratory on the ISS Columbus module will automatically shake and analyse these mixtures using complex laser optics, highly sensitive photodiodes and high-resolution cameras that can take up to 10,000 images per second.

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Each test cell weighs only 20 grams and contains less than 2 cm³ of the liquid mixture, while each segment comprises four test cells and weighs a total of 320 grams.

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About Airbus

Airbus is a global leader in aeronautics, space and related services. In 2019, it generated revenues of € 70 billion and employed a workforce of around 135,000. Airbus offers the most comprehensive range of passenger airliners. Airbus is also a European leader providing tanker, combat, transport and mission aircraft, as well as one of the world's leading space companies. In helicopters, Airbus provides the most efficient civil and military rotorcraft solutions worldwide.

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