Zeppelin NT Flies for Jülich Climatologists

Airship investigates the "washing efficiency of the atmosphere"

Jülich / Friedrichshafen, 16 July – From 16 July, Jülich climatologists will be able to use a Zeppelin NT as a research platform for the first time. Equipped with various measuring instruments, the Zeppelin will spend ten days carefully analysing the air above South Germany. Scientists will concentrate on the degradation and transport of pollutant and trace gases in the lowest layer of the atmosphere: existing knowledge on processes in this very chemically active region is still incomplete.

"The atmospheric layer that stretches up to an altitude of 1000 metres plays a decisive role in air quality and the climate because is so chemically active: pollutants are emitted in this layer, converted into other substances, and then spread further", says Prof. Andreas Wahner from Research Centre Jülich. "The Zeppelin NT allows us to collect comprehensive data in this region for the first time." This is made possible by the unique flight characteristics of the Zeppelin NT from Friedrichshafen: it can float slowly in low altitudes, pause in the air, ascend and descend vertically, fly up to 24 hours, and still carry heaving measuring equipment.

Around half a tonne of research equipment will be packed into the airship's passenger gondola for the measuring flights. Another 350 kilograms will be transported in the open air on a specially designed platform on the top of the zeppelin. Scientists will use these instruments to measure the amount of what are known as hydroxyl radicals, the "detergents of the atmosphere". They trigger the degradation of pollutants and are a measure of the cleaning efficiency of the atmosphere.

In different flight missions, the researchers will investigate the transport and conversion of pollutant and trace gases. They will measure the chemical changes of the gases being transported by strong up-currents and those in a plume of waste air from urban agglomerations. "We are extremely proud to be involved in this project", said Thomas Brandt, Chief Executive of ZLT Zeppelin Luftschifftechnik. "This project is a grand challenge for us and it is an opportunity for us to begin a new chapter in the history of special missions for the Zeppelin NT."

The Jülich measurements form part of the project "Transport and Chemical Conversion in Convective Systems" (TRACKS) funded by the Helmholtz Association of German Research Centres, and they will also be incorporated into the international COPS measurement campaign (Convective and Orographically-induced Precipitation Study). COPS began in the Black Forest at the beginning of June and it is concerned with the meteorological analysis of precipitation.

Cooperation partners for the measurements with the Zeppelin NT are Forschungszentrum Karlsruhe, University of Heidelberg and Metair AG. The Federal Ministry of Education and Research provided the funds for the research equipment on board the Zeppelin NT.

The Zeppelin NT during its successful first test flight with its platform and Jülich measuring equipment.
Photo: Research Centre Jülich

Further information:

www.fz-juelich.de

The Zeppelin as a research platform: http://www.fz-juelich.de/icg/icg-2/research/zeppelin

Zeppelin NT: http://www.zeppelin-nt.de/

TRACKS: http://www.fz-juelich.de/icg/icg-2/forschung/tracks/ and http://www.imk.uni-karlsruhe.de/417.php

COPS: http://www.uni-hohenheim.de/cops/

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