



LUDWIG-
MAXIMILIANS-
UNIVERSITÄT
MÜNCHEN

METEOROLOGISCHES
INSTITUT
MÜNCHEN



Deutsches Zentrum
DLR für Luft- und Raumfahrt

We invite applications for a

PhD Position at DLR and LMU:

The stratospheric transport circulation diagnosed from trace gases

The PhD position is part of the HGF Young Investigators group MACClim, a joint project between the DLR Institute for Atmospheric Physics and the Meteorological Institute at Ludwig-Maximilians-University (LMU) Munich. The project assesses the role of the middle atmosphere in a changing climate, with focus on the causes and impacts of changes in the global transport circulation of the middle atmosphere.

The global transport circulation in the middle atmosphere, known as Brewer-Dobson circulation, controls the distribution of radiative active trace gases, that contribute to the radiative forcing of the climate system. The circulation is known to be influenced by climate change. However, as the circulation can only be observed indirectly via trace gas concentrations, uncertainties in the development of the global circulation over the past decades are large. At a given point in the atmosphere, air is constituted by air parcels that traveled via different pathways to this point. Thus the transport time scales (so-called Age of Air) to this point are described by a spectrum, the Age of Air spectrum. The goal of the proposed PhD project is to (1) explore methods to derive transport characteristics, including the age of air spectrum, from chemical tracers and (2) to identify the relevant processes that affect transport of tracers with different lifetimes, and thus lead to the shape of the spectra. Possible changes in the age of air spectra caused by changes in the underlying transport processes (i.e. mean net transport, mixing) will be investigated. The majority of the work in the PhD project will involve working with a comprehensive chemistry-climate model (the EMAC model).

The appointment starts in June 2016 and is for a period of three years (salary according to 50% TVL 13).

Enquiries and applications can be directed to: Hella Garny (hella.garny@dlr.de)
The position is open until filled.