Bachelor Thesis Announcement

Comprehensive literature review on thermospheric wind and its modelling and measurement techniques

Motivation:
Thermospheric winds play an important role in the dynamics of the upper atmosphere and are of major importance for the behavior of the thermosphere and ionosphere. An example visualization of the horizontal wind speeds at 400 km altitude can be seen in Fig. 1. Different methods to measure and/or calculate these winds ranging from ground-based measurements to using the dynamics of satellites are available.

Figure 1: Horizontal wind speeds at 400 km altitude in July 2016 modelled with the HWM-93 wind model
(Reference: Dissertation E. Doornbos, 2011)

Within this thesis, a detailed literature review on thermospheric wind and its modeling and measurement techniques shall be conducted. The goal of the work is to prepare a structured document which gives a comprehensive overview of the field.

Task:
- Familiarization with thermospheric wind
- Performing a comprehensive literature review on thermospheric wind, its modelling and its measurement techniques
- Identifying knowledge gaps and promising directions for further investigations
- Structured documentation of the findings

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