

# Data Mining in Atmospheric Gravity Waves

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Gravity waves can emerge as a result of the perturbation of atmospheric circulatory systems [1]. They encompass periodic, yet geographically stationary, changes in temperature, pressure and vertical wind components. Occurrence of such waves is frequent if strong winds hit high mountains [2]. Secondary effect of such waves may also be encountered as clear air turbulence (CAT) in commercial flights. Atmospheric gravity waves strongly influence weather phenomena and on a larger time scale climatic processes. They are responsible for the vertical mixing of the atmosphere from the mesosphere up to the stratosphere [2]. First results from research flights in the Pyrenees during the spring 2015 measuring campaign are reported. Several flights with a sensor equipped unpowered glider in altitudes between 2000 and 7000m were undertaken. Data Mining and Knowledge Discovery methods from the Databionics Lab in Marburg were applied [3]. The results point to so far new and interesting patterns in the structure and formation of lee waves. These findings are compared with results from other measuring campaigns [4,5].

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