Université Blaise Pascal

CNRS CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

Post-Doctoral Research Position

GPS Atmospheric Applications Upgrades With the European GALILEO System

Water vapour is an important parameter in numerous physical and dynamical processes of the atmosphere (radiative transfer, cloud formation, convection, precipitations, etc.). However, it is extremely variable both in space and time, and is still one of the least easily or routinely measured parameter. Beyond its geophysical positioning function, GPS allows to estimate atmospheric water vapour. Indeed, knowing pressure and temperature, it is possible to convert the electromagnetic wave propagation delay due to the atmosphere into integrated water vapour. Thus, GPS can be viewed as a very valuable instrument to study atmospheric water vapour as it provides continuous, high time resolution measurements in all weather conditions. GPS estimates of water vapour compare well with other instruments measurements. For research purposes, GPS provides adequate documentation of the time evolution of the water vapour field, enables the restitution of the 3-D water vapour field through tomography when a dense network of GPS stations is available, and should allow the determination of humidity profiles when combined with another instrument, in particular with a wind profiler.

With the advent of the European GPS system GALILEO and its additional frequencies, opportunities for improved atmospheric characterization and parameter estimation can arise: ionospheric contribution, water vapor signature at low elevation angles, etc. Thus, the proposed post-doctoral position is dedicated to assess the possible upgrades to tropospheric parameter retrieval with the Galileo GPS system.

This position is a one year contract at the Laboratoire de Météorologie Physique, University Blaise Pascal in Clermont-Ferrand, France. Desired starting date is summer 2006. It offers an academic environment within a small dedicated research laboratory and a competitive salary. Clermont-Ferrand is located in the Auvergne region in central France at the doors of the pristine Massif Central natural area.

Interested candidates with a recent Ph.D., preferably in physical meteorology or remote sensing, must provide their Curriculum Vitae, a statement of interest including their qualifications, expectations and availabilities for the job, as well as three references to:

Dr. Joël Van Baelen, LaMP/OPGC, 24 avenue des Landais, 63177 Aubière
j.vanbaelen@opgc.univ-bpclermont.fr

All candidacy received before March 31, 2006, will be reviewed with all due attention.

OPGC