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The Conrad Observatory: Geomagnetism at the new geophysical observatory in Austria

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The Conrad Observatory is a state-of-the-art facility to monitor fundamental physical parameters of the Earth. It is named after the famous seismologist and climatologist Victor Conrad (1876 - 1962), who worked at the Central Institute for Meteorology and Geodynamics in Vienna for many years. The observatory is located about 50 km SW of Vienna in a nature reserve, 1000 m above sea level. The region is characterized by exceptional low artificial and natural noise sources. Its underground construction facilitates almost constant temperature. Among the geophysical disciplines represented in the observatory are seismology, gravity and geomagnetism. The present underground facilities at the Conrad observatory contain instruments to continuously monitor the first two disciplines. The latter discipline, geomagnetism, will be put into operation in 2012.
The geomagnetic observatory consists of a tunnel system with a cumulative length of 1 km. The tunnel will contain several variometers, a three-axis scalar gradiometer system consisting of 9 potassium sensors with an axis-length of 200 m, several pillars e.g. for absolute measurements and a calibration coil system. Highly accurate time control will be facilitated by redistributing GPS signals. Within this presentation we will focus on the current development state of this observatory, present preliminary measurements and introduce detailed plans on instrumental setup and data analysis.