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The new geomagnetic observatory of Duronia, Italy

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We present the new geomagnetic observatory of Duronia (41°39'N, 14°28'E, 910m, L=1.6) which has been created in the framework of the European Project MEM (Magnetic and Electric fields Monitoring). The observatory consists of six wood frame buildings, each building has a different measurement system: variometer, proton magnetometer, ULF search coil, ELF search coil, VLF search coil and a wide band electrometers (1 Hz 5 GHz). The new geomagnetic observatory is located in a very low noise area, the electromagnetic background noise of the site is extremely low (less than 50 fT at 1 Hz).These characteristics allow us to plan new research activities in the field of the geomagnetic sciences such as Schumann Resonance and Alfvén resonance. Preliminary tests were conducted during 2009, continuous measurements of the geomagnetic field began in June 2010 which include variation recordings and absolute measurements. These activities are one of the basic operations of the Duronia observatory. The quality of the baseline is evaluated following the usual INTERMAGNET criteria, and comparing the baseline with data from other remote geomagnetic observatories.