Determination of the Croatian Geomagnetic Observatory Location

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Abstract

Ground survey within the Nature Park Lonjsko Polje, placed in the middle-northern Croatia was performed during the time interval 2007-2010 in order to find the best location for installing the geomagnetic observatory. The total magnetic field has been measured a few times using the Overhauser proton magnetometers. The horizontal and vertical gradients of the total field, and its temporal behaviour were investigated over the restricted region that we estimated as suitable for the observatory. The results obtained from thoroughly conducted measurements allowed us to find definitive positions for the instrument pillars. These results are in agreement with previously suggested location found based on combination of Comprehensive CM4 model prediction and measurements conducted from 2003 to 2005. This study contributes to the development of geomagnetism in Croatia and paves a way to install the first geomagnetic observatory in Croatia.

Key words: ground survey, total field time series, geomagnetic observatory.