



Small-size light Overhauser geomagnetic sensors and magnetometers

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The innovative development and manufacturing experience of non-orientable sensor of geomagnetic field based on Overhauser dynamic nuclear polarization is reported. We developed unique software that provides the proton precession signal and noise and orientational characteristics of the sensor. The developed sensors found applications in the industrial borehole magnetometer LOM-2 due to the world smallest sensor size of the diameter 30 mm. The sensitivity of 0.05nT is reached at a measuring cycle of 1 second at absolute accuracy better than 1nT. We discuss the prospects of these sensors for nano-satellites, for example the CUBESAT satellites within the framework of university and academic development programs and international cooperation.