

## SiPMs based azimuthal position sensor in ANITA-IV Hi-Cal Antarctic balloon experiment

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Hi-Cal (High-Altitude Calibration) is a balloon experiment that will be launched in Antarctica after ANITA-IV (Antarctic Impulsive Transient Antenna) and will generate a wide beam pulse in the frequency range expected from radiation induced from a cosmic ray shower. In this work a device based on an array of silicon photomultipliers (SiPMs) for determination of the azimuthal position of Hi-Cal is presented. The angular resolution it provides is about 3 degrees. Since during the flight at the altitude of  $\sim 38$  km the pressure will be  $\sim 0.5$  mbar and temperature  $\sim -20$  °C, the equipment has been tested in a chamber at different pressures (0.5 ÷ 1000) mbar and temperatures (  $-40$  ÷  $+50$ ) °C.

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