First Flight of the PILOT Balloon Borne Experiment

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The PILOT experiment is dedicated to the measurement of the polarized emission of the galactic interstellar dust in the submillimeter wavelength range. The instrument payload consists of a bolometer camera at the focus of a 1 m diameter telescope, and its associated readout and control electronics. The detection is based on silicon bolometer arrays of the same technology as the Herschel/PACS instrument. The 2048 pixels are cooled to 320 mK by a ^{3}He sorption refrigerator inside a ^{4}He cryostat. The optics splits the incoming radiation on two orthogonal polarization directions, making this instrument the first polarized camera operated at 240 µm. The first flight of PILOT was launched from the Canadian balloon facility in Timmins, operated by the CSA (Canadian Space Agency) and the CNES (Centre National d'Etudes Spatiales, France), on September 20th 2015.The operation of the instrument was nominal. It allowed 20 hours of astrophysical observations from the float altitude of 39.5 km. The data are being analysed at IAS and IRAP.