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The electron spectrometers for the Bepi-Colombo Mercury Magnetospheric Orbiter

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We present the electron spectrometers which will be flown on the ESA/JAXA Mercury Magnetospheric Orbiter (MMO). The energy range of the experiment extends from $\sim$5 eV to 35 keV. The electrostatic analyzers are of the 'top-hat' type, allowing to uniformly cover an instantaneous field of view of 360° when associated to ring shaped Micro-Channel-Plates. In order to obtain a full 3D electron distribution in $^1/_4$ of the satellite spin, two sensor heads are located 90° apart on the satellite. To minimize the influence of UV photons, the electrostatic analyzers are designed to impose 3 reflections to UV before reaching the MCP. As electron fluxes are expected to cover an extended range of fluxes, from the dense solar wind down to the possibly depleted magnetosphere, the geometrical factor of the sensor heads can be electronically changed, if necessary during a single energy sweep. The related operation modes of the sensor are described. We also present preliminary results concerning the behaviour of sensible parts of the sensors under high temperature and high radiation levels.