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Electron distribution functions measured by the SWA/EAS sensor during the first perihelia of the Solar Orbiter mission

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We present an updated procedure developed to calibrate flight data from the Electron Analyser System (EAS) of the Solar Wind Analyzer (SWA) instrument onboard Solar Orbiter. By imposing specific physical conditions on the data set, like isotropy of the core electron population, and by comparing electron fluxes measured by the two EAS heads, we are able to derive consistent correction factors of the raw data set. The procedure is shown to improve the quality of the merging of the two heads dataset. We evaluate the impact of these corrections on ground moment calculation and on specific features of the electron pitch-angle distributions during the first perihelia of the mission. Anisotropy of the component of the pitch-angle electron distribution in different energy ranges is analysed. Detailed properties of specific features of the distribution including strahl and anti-strahl electrons are examined with this updated procedure.