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Spectral Observations at the CILBO Observatory: Calibration and Data Sets

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This talk will introduce the The Canary Island Long-Baseline Observatory (CILBO), a double station meteor camera setup located on the Canary Islands and operated by ESA's Meteor Research Group since 2010.

Our observations of meteors are obtained in the visual wavelength band by intensified video cameras from both stations, supplemented by an intensified video camera mounted with a spectral grating at one of the locations. The cameras observe during cloudless and precipitation-free nights and data are transferred to a main computer located at ESA/ESTEC once a day. The image frames that contain spectral information are calibrated, corrected, and finally processed into line intensity profiles. An ablation simulation, based on Bayesian statistics using a Markov-Chain Monte-Carlo method, allows to determine a parameter space, including the ablation temperatures, chemical elements and their corresponding line intensities, to fit against the line intensity profiles of the observed meteor spectra. The algorithm is presented in this talk. Several hundred spectra have been processed and will be made available through the Guest Archive Facility of the Planetary Science Archive of ESA.