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CCAT EoR-Spec: Observation planning from commissioning to the full deep spectroscopic survey

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In this talk, we present the current status of the observation planning for the CCAT (Cerro Chajnantor Atacama Telescope) EoR-Spec (Epoch of Reionization Spectrometer). EoR-Spec is one of the Prime-Cam modules of Fred Young Submillimeter Telescope (FYST) operated by the CCAT Observatory. It covers the frequency range between 210 to 420 GHz and uses a cryogenic scanning Fabry-Perot Interferometer with a resolving power of ~ 100 as its spectral device. EoR-Spec will be installed in Prime-Cam during the second year of CCAT operation. The primary science goal of the EoR-Spec is the investigation of the evolution of the ionizing sources during and post EoR. This is accomplished by a deep spectroscopic survey (DSS) of the E-COSMOS and E-CDFS fields in [CII] via the line intensity mapping method, covering the redshift between 3.5 to 8. We performed coverage simulation of DSS with various scanning patterns and parameters and investigated the mapping efficiency and homogeneity. We will also present the calibration strategy, as well as plans for commissioning and the early science phase.

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