The KISS experiment

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The KISS (KIDs-Interferometer-Spectrum-Survey) experiment is a ground-based spectrum-imager dedicated to the study of clusters of galaxies at millimeter wavelengths. The clusters will be mapped on their physical properties through the Sunyaev Zel’dovich Effect SZE, a spectral distortion of the Cosmic Microwave Background radiation. This study will lead the constraint of the parameters and the cataloging of the cluster of galaxies. The instrument consists of a fast Martin-Puplett Interferometer MPI with a Kinetic Inductance Detectors KIDs, camera cooled to 150 mK. It is installed at the 2.5 m QUIJOTE telescope in Tenerife since February 2019.

COsmological TARGET
Sunyaev Zel’dovich Effect

SZE due to inverse Compton scattering between CMB and ICM

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<tr>
<th>Frequency (GHz)</th>
<th>0.0</th>
<th>0.1</th>
<th>0.2</th>
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<td>Temperature (K)</td>
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The band is down limited by the absorber material.

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SZE

The roof mirror oscillates creating the Optical Path

5 Hz oscillating mirror on 10 cm OPD