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Millimetric Sardinia radio Telescope Receiver based on Array of Lumped elements kids

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MISTRAL is a millimetric camera working in the W-band (77–103 GHz) which will take data from the Sardinia Radio Telescope, the Italian 64-m radio telescope located near Cagliari, at 600m above the sea level, in Sardinia. It is being built as a facility instrument by the Sapienza University for INAF, that manages the radio telescope, under a PON contract. It will consist of a compact cryostat hosting the re-imaging optics, cooled at 4 K, and a 408-pixel array of photon-noise limited lumped element kinetic inductance detectors fabricated at CNR-IFN and cooled at a base temperature lower than 300 mK. MISTRAL will be able to investigate a long list of scientific targets spanning from extragalactic astrophysics to solar system science, with high angular resolution ($\sim 13''$), including Sunyaev Zel'dovich effect measurements and the study of the Cosmic Web.

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