## Observing the millimeter Universe with the NIKA2 camera



ID contributo: 46 Tipo: non specificato

## The $Y_{500}-M_{500}$ scaling relation from the NIKA2 SZ Large Program

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The abundance of galaxy clusters in mass and redshift is a powerful cosmological probe, that enables the measurement of cosmological parameters in many parts of the electromagnetic spectrum. One of the key elements needed to perform the cosmological exploitation of a cluster survey is the relation between the survey observable and cluster masses. Among these observables, the integrated Compton parameter:math:Y is an observable of Sunyaev-Zeldovich (SZ) surveys, that tightly correlates with the thermal energy content of galaxy clusters, and therefore with their mass.

The relation between the Compton parameter and the mass within  $R_{500}$  is one of the goals of the NIKA2 SZ Large Program (LPSZ), also presented in this conference. In this talk, I will present ongoing studies to forecast the constraining power of this LPSZ, using mock simulated datasets that mimic the large program sample, selection function, and typical uncertainties on  $Y_{500}$  and  $M_{500}$  obtained for analyses of individual clusters.

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