



QUBIC: a Fizeau interferometer targeting primordial B-modes

Main author:

TARTARI Andrea

Co-authors:

Tartari, A., Aumont, J., Battistelli, E.S., Baù, A., Battaglia, P., Belier, B., Bergé, L., Bernard, J. Ph., Bersanelli, M., Bigot-Sazy, M.A., Bleurvacq, N., Bordier, Brossard, J., G., Bunn, E. T., Cavaliere, F., Chanial, P., Chapron, C., Coppolecchia, A., Decourcelle, T., De Bernardis, P., Del Torto, F., De Petris, M., Drilien, A. A., Dumoulin, L., Falvella, M. C., Franceschet, C., Gault, A., Gervasi, M., Ghribi, A., Giard, M., Gradziel, M., Grandsire, L., Gayer, D., Hamilton, J. Ch., Haynes, V., Giraud-Heraud, Y., Holtzer, N., Kaplan, J., Korotkov, A., Lande, J., Lowitz, A., Maffei, B., Marnieros, S., Martino, J., Masi, S., Mennella, A., Montier, L., Murphy, A., Ng, M. W., Olivieri, E., Pajot, F., Passerini, A., Piacentini, F., Piat, M., Piccirillo, L., Pisano, G., Prêle, D., Rambaud, D., Rigaut, O., Rosset, C., Salatino, M., Schillaci, A., Scully, S., O'Sullivan, C., Timbie, P., Tucker, G., Vibert, L., Voisin, F., Watson, B., Zannoni, M.

The array of microcalorimeters operates at temperatures below 100 mK, and thus requires the use of a sophisticated cryostat. To allow the x-ray photons to reach the X-IFU detector at the focal plane, windows have to be opened on the cryostat thermal and structural shields surrounding the cold stage. As a consequence, X-ray transparent thermal filters need to be mounted on these windows to reduce the radiative heat-load from warm surfaces onto the cold detector array.