

SHARK-NIR, a status update

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Exo-Planets search and characterization is a very fast growing astronomical research field and will be one of the most exploited scientific topic in the next decades. Among the exoplanets detecting techniques used nowadays, the direct imaging is probably one of the most challenging from a technological point of view, as it requires the use of complex coronagraphic masks in synergy with exquisite wavefront sensing and data reduction. Currently, only a few coronagraphic instruments are in operations in the Northern Hemisphere, which makes it particularly appealing for new generation high contrast imagers. This scenario led to SHARK-NIR conception and drove its design. SHARK-NIR is a high contrast camera for the LBT, working in Y, J and H bands. It has been conceived and designed to fully exploit the high Strehl adaptive optics correction delivered by the FLAO module, which is being upgraded to SOUL, and will implement different coronagraphic techniques, with contrast as high as 10^{-6} up to 65 mas from the star. It also has spectroscopical capabilities, with low and medium resolution, and its relatively wide Field of View (18×18 arcsec) makes it accessible to other scientific targets, such as galactic jets and disks, as well as extra-galactic cases. SHARK-NIR has a couple of peculiar features, such as a fast internal TT loop to minimize the residual jitter and a local NCPA correction, performed through a DM inside the instrument itself. We report here about the SHARK-NIR status, which is in the AIV phase, that should finish by the spring of the next year, bringing in this way the first photons to the instrument by the end of 2020.

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