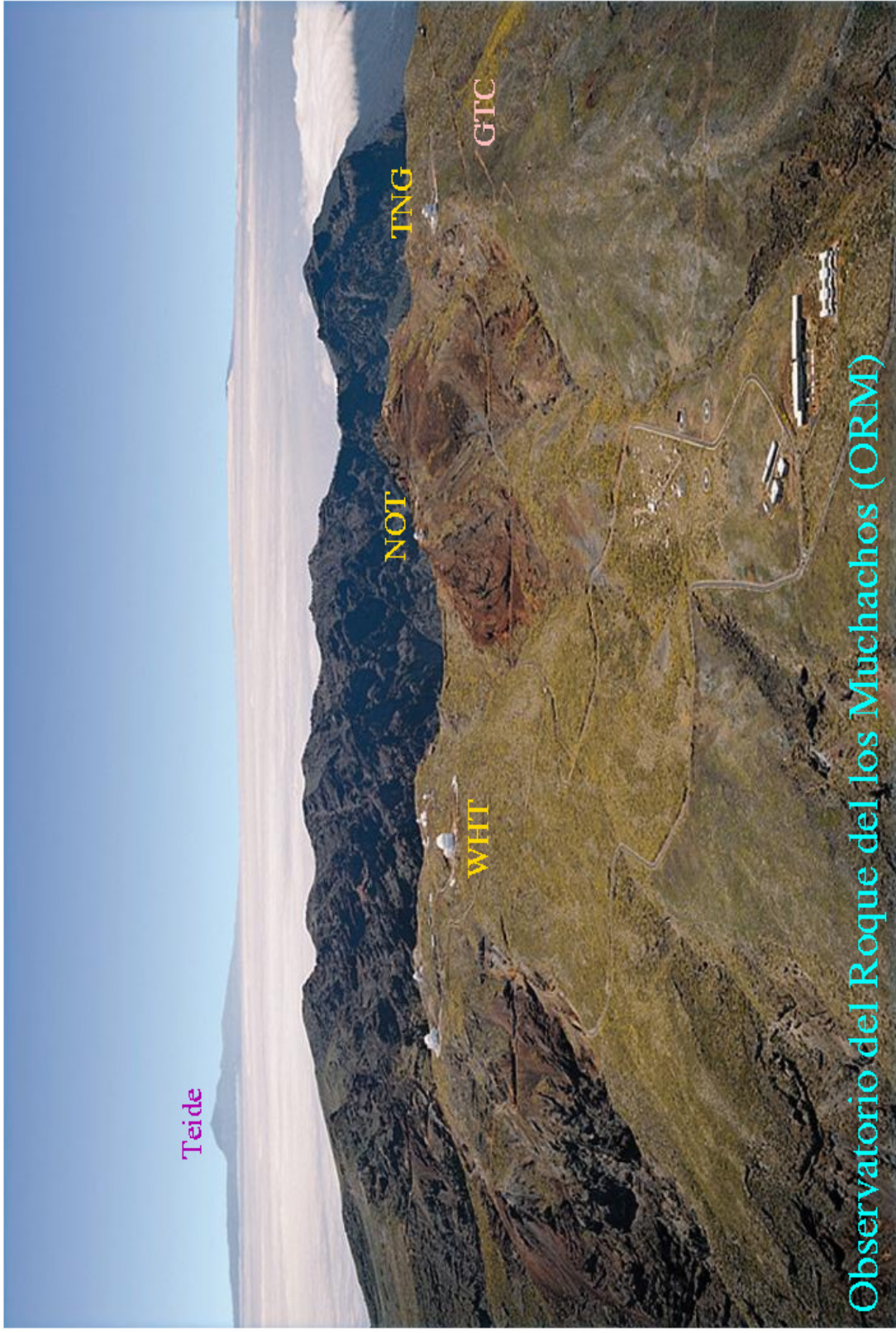
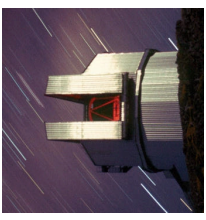
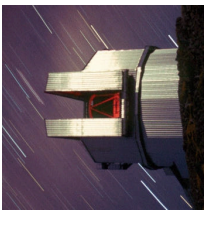




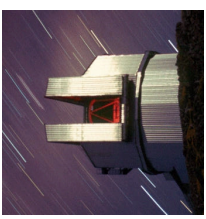
Welcome to La Palma



The contribution of TNG to the study of very low mass stars, La Palma Jun 28th



The contribution of TNG to the study of very low mass stars, La Palma Jun 28th

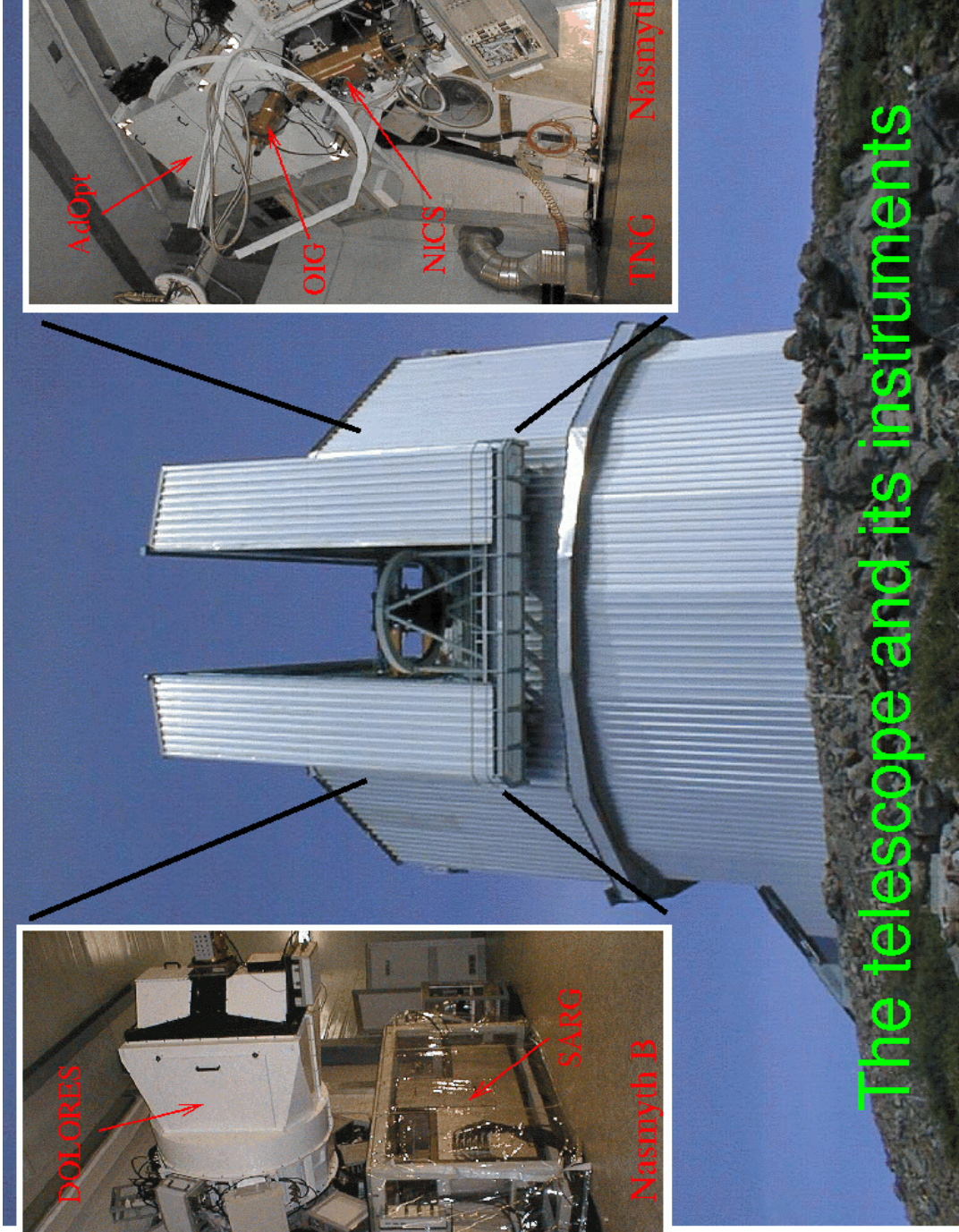
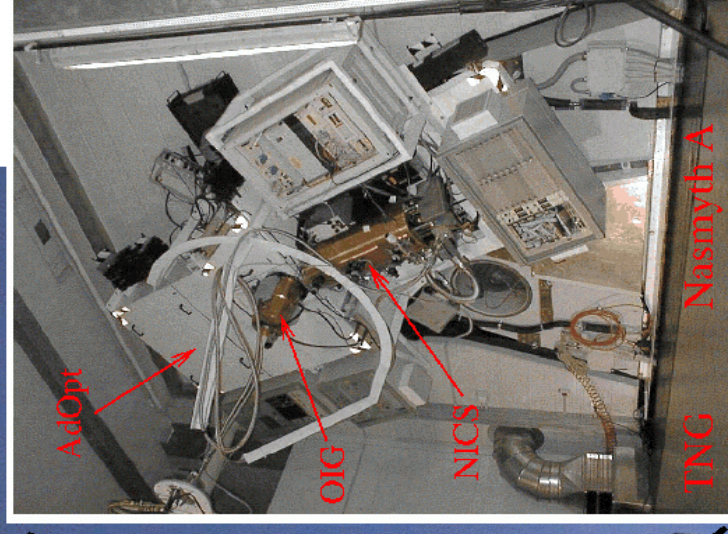
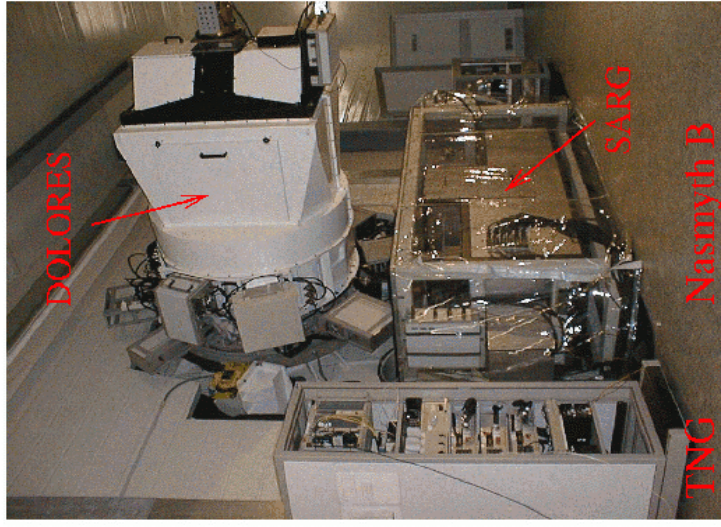


Protect the sky of La Palma. Endorse the law!

The contribution of TNG to the study of very low mass stars, La Palma Jun 28th



TNG: the present

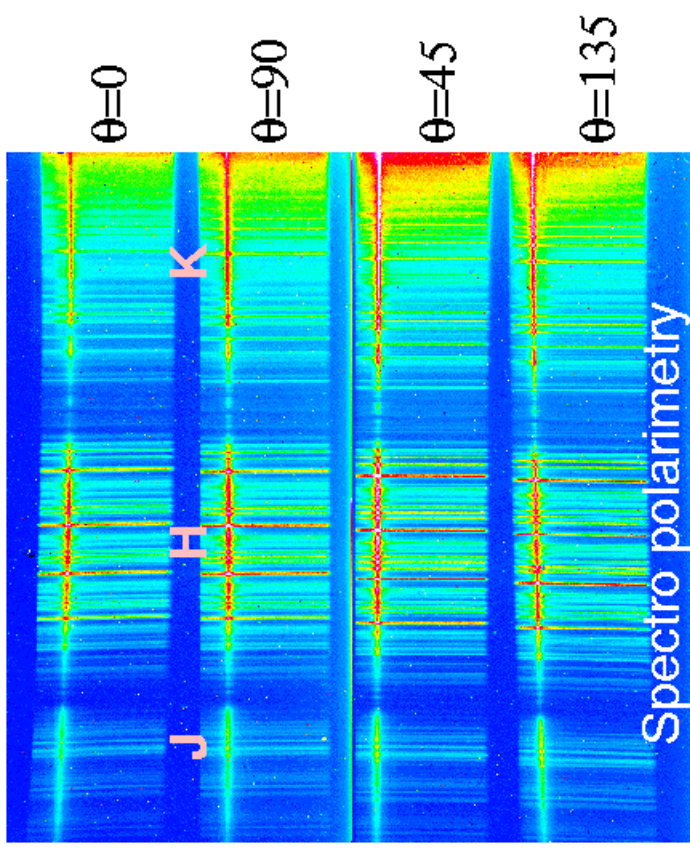
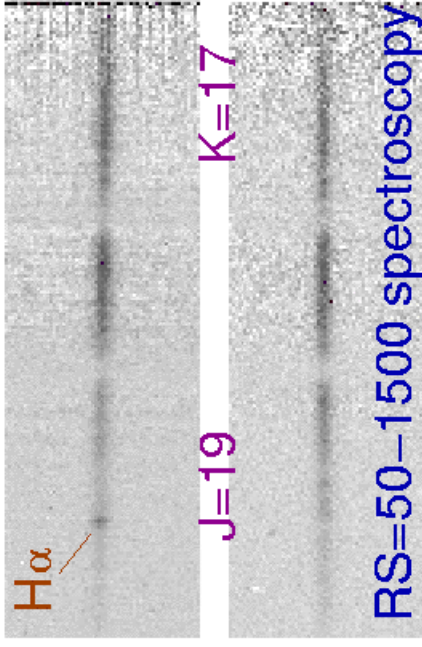
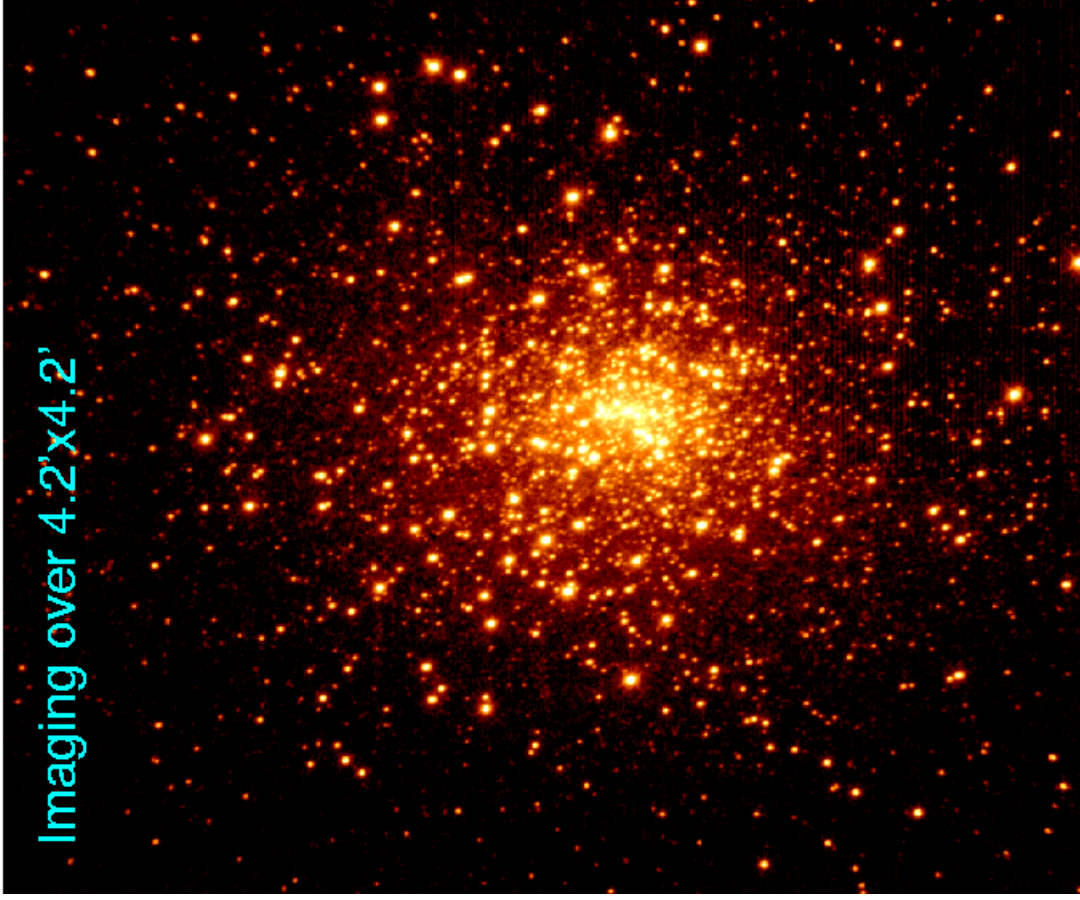
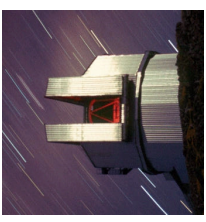


The telescope and its instruments

The contribution of TNG to the study of very low mass stars, La Palma Jun 28th



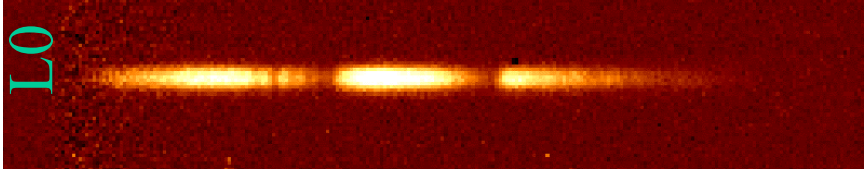
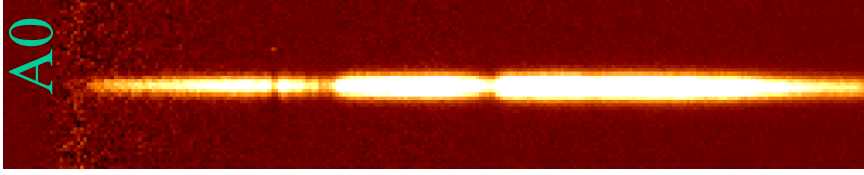
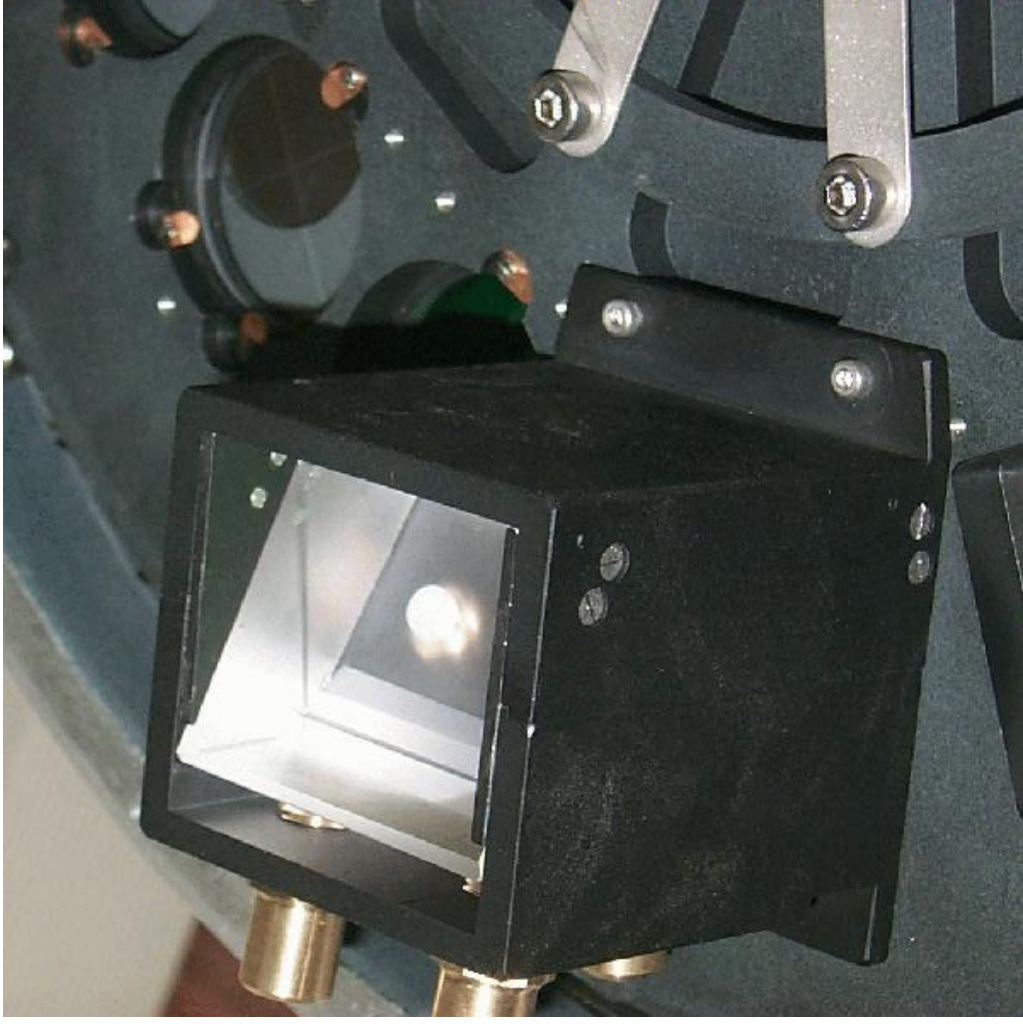
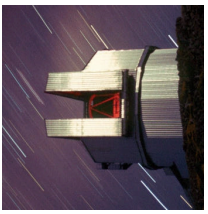
NICS: a multi-mode and unique IR instrument



The contribution of TNG to the study of very low mass stars, La Palma Jun 28th



NICS-Amici: the most powerful device for IR low resolution spectroscopy

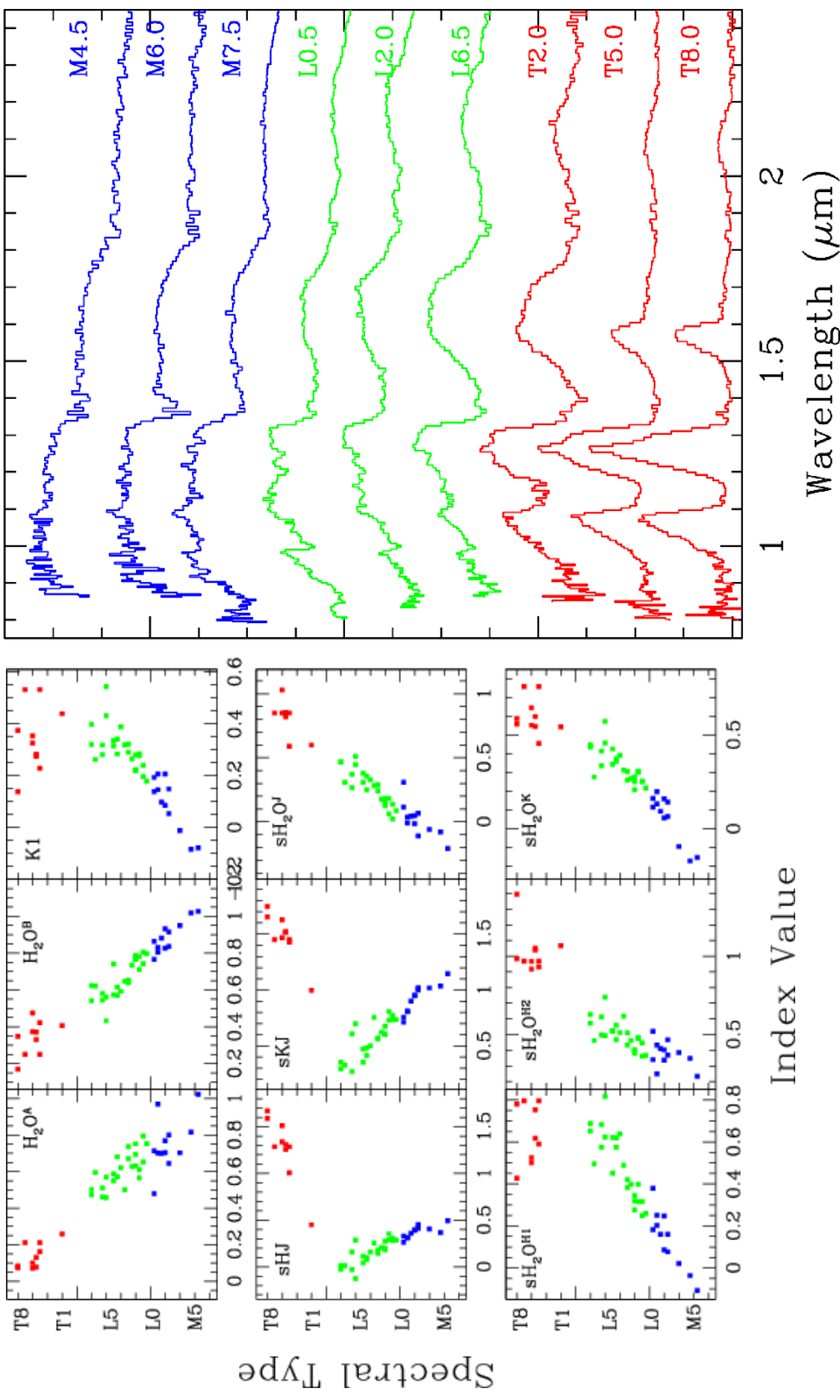
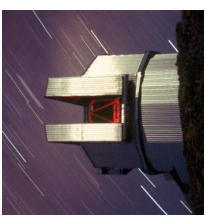


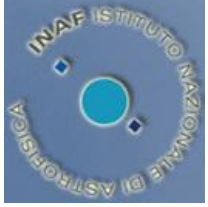
2.5 μm
0.8 μm

The contribution of TNG to the study of very low mass stars, La Palma Jun 28th

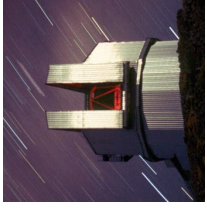


NICS-Amici: the ideal tool for spectral classification of low mass stars.

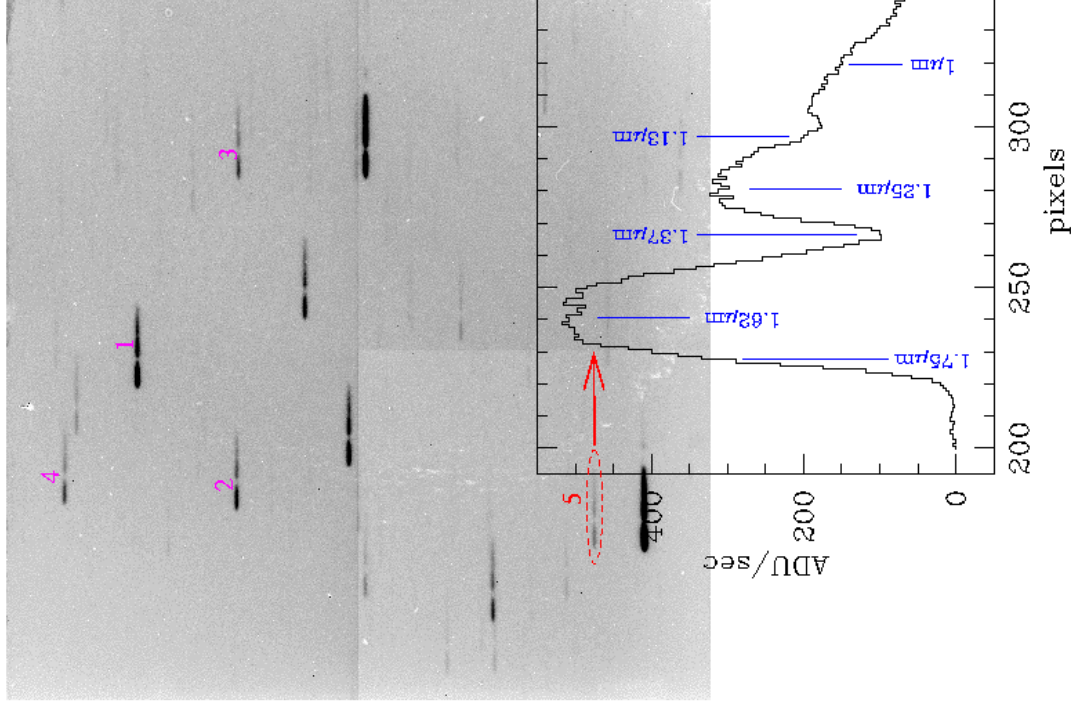




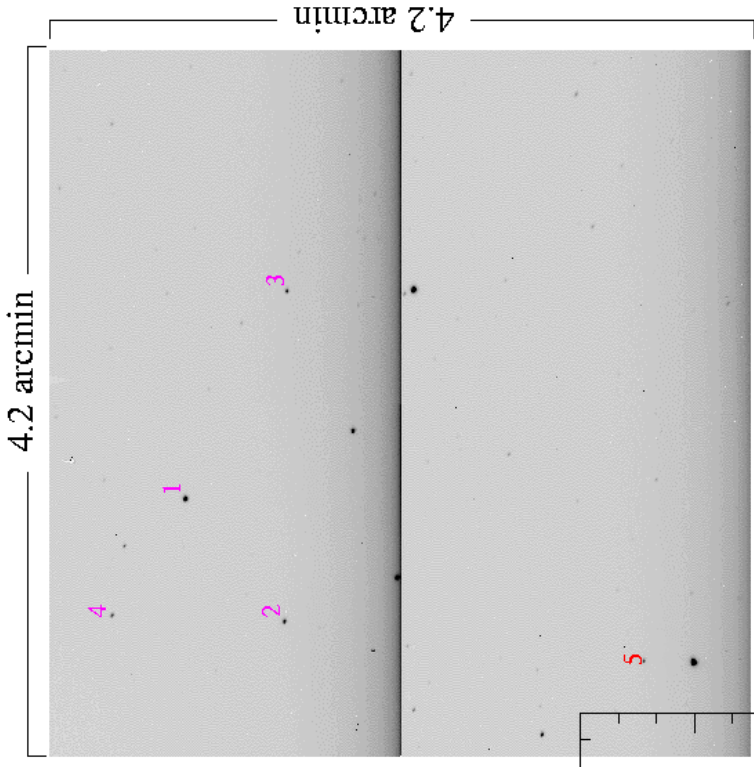
Prism-objective mode to search/classify BDs !?



NICS-Amici prism-objective image (raw frame)



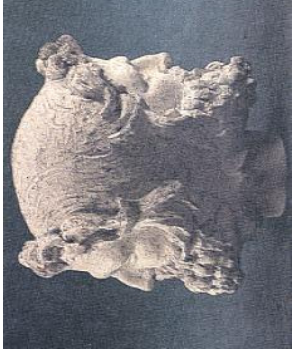
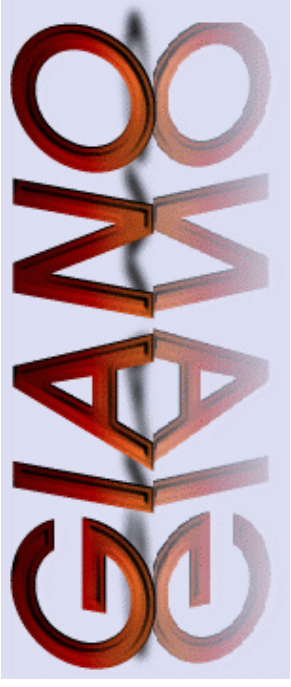
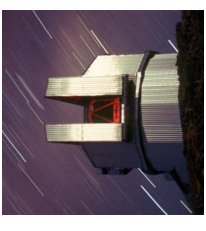
H image (raw frame)



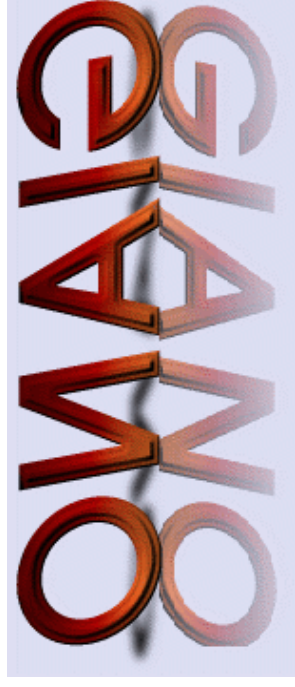
limiting magnitude:
H=17.5 10sigma in 1hr

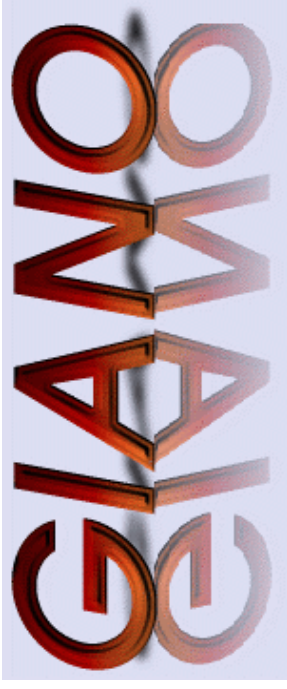


TNG: the (near) future

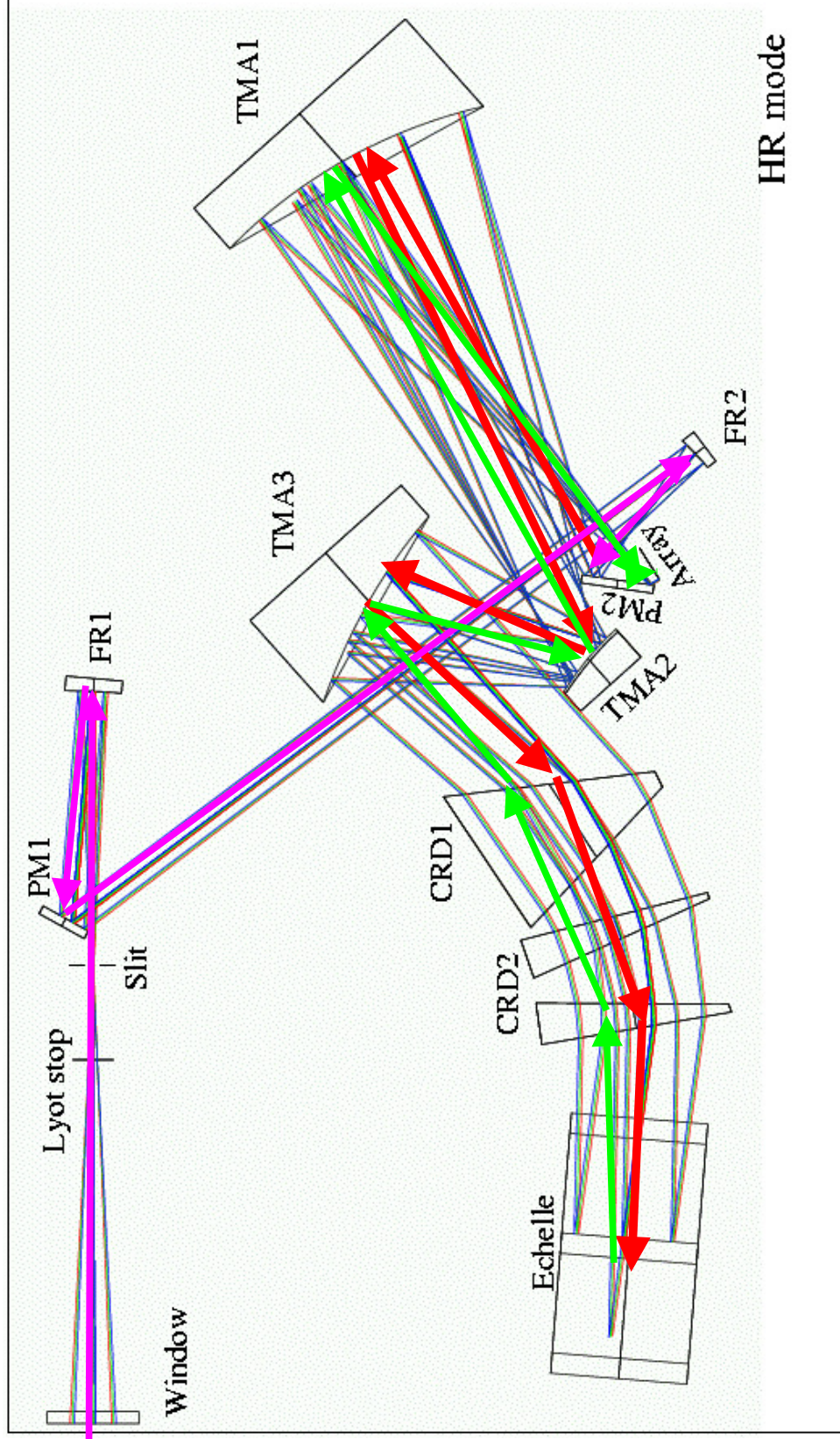


An IR (0.9-2.5 μm) spectrometer highly optimized both for low (~ 500) and high (up to 80,000) resolution spectroscopy. Based on standard technologies, easy to build, approved, funded and under construction.

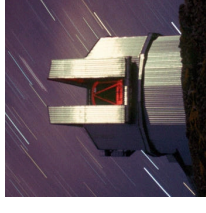
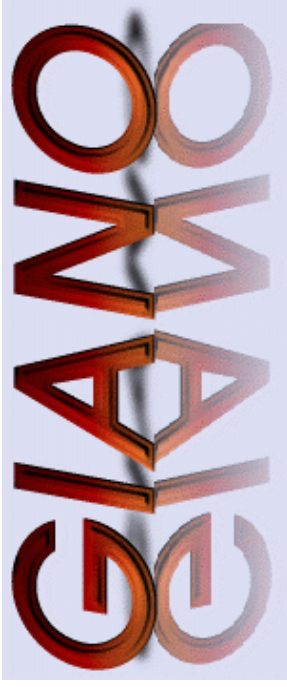




Compact echelle spectrograph with prism cross-dispersers: HR mode



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HR mode

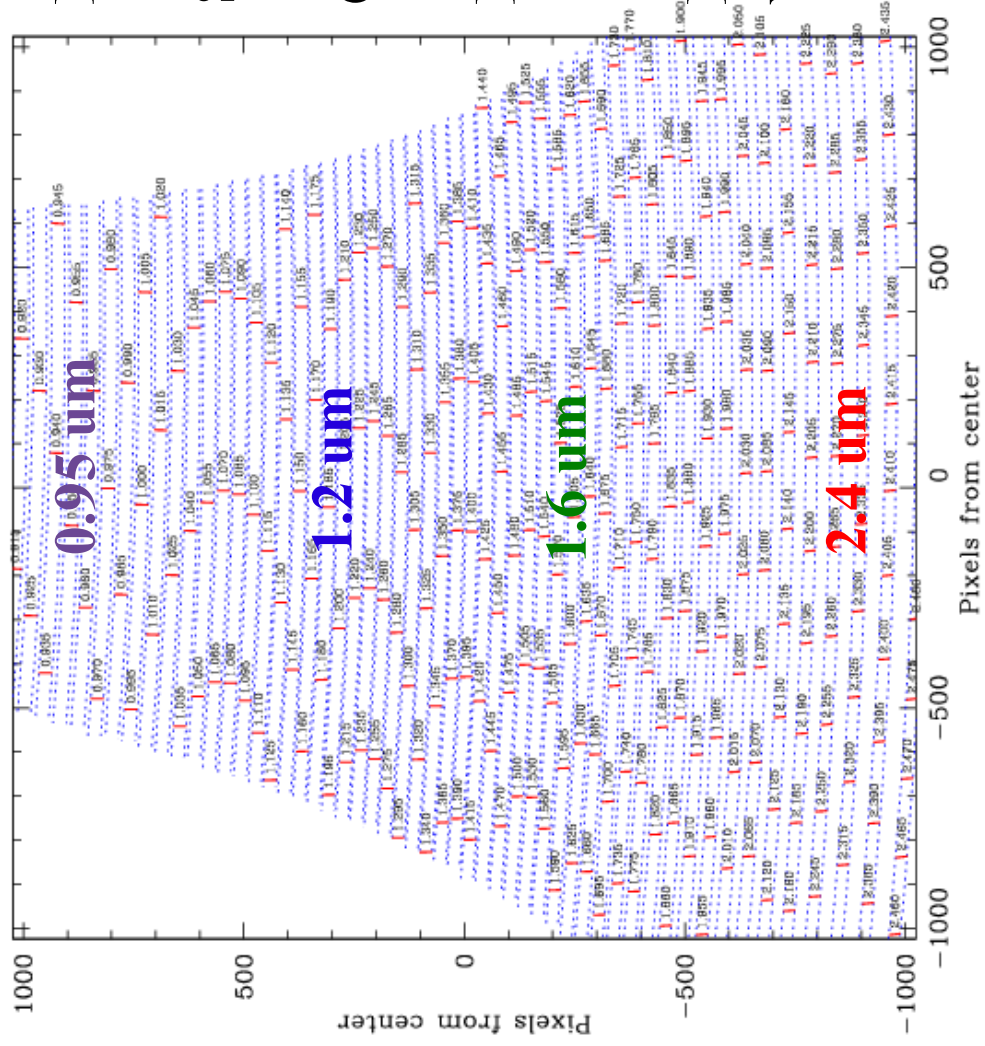
Spectral format on the 2k x 2k array

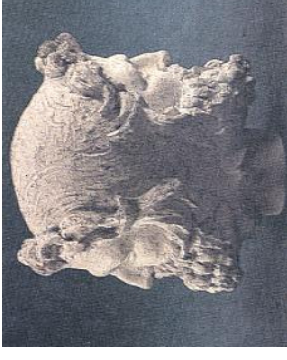
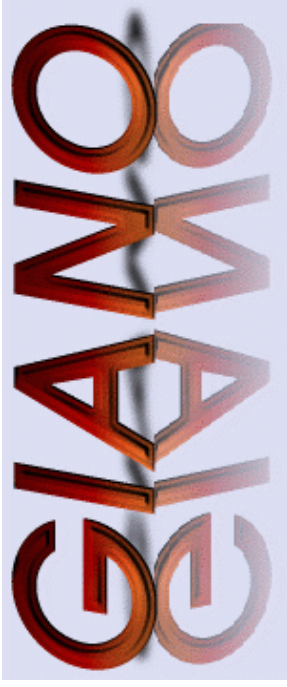
Complete coverage up to 1.8 um

Res. power 50,000 with 0.5" slit

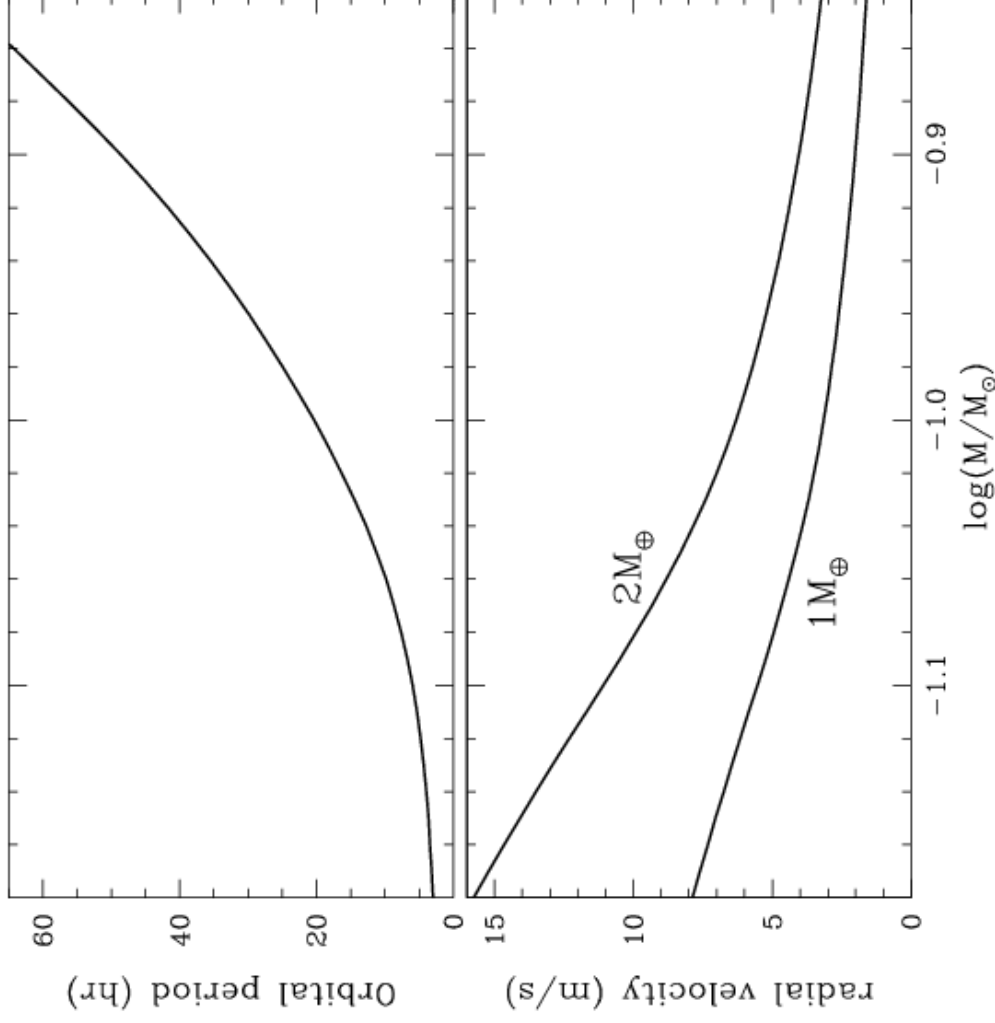
80,000 with 0.3" slit

Fixed grating, stable instrument in vacuum (HARPS-like)...





Habitable earth-like planet around an old L-dwarf

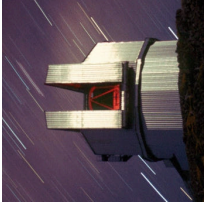
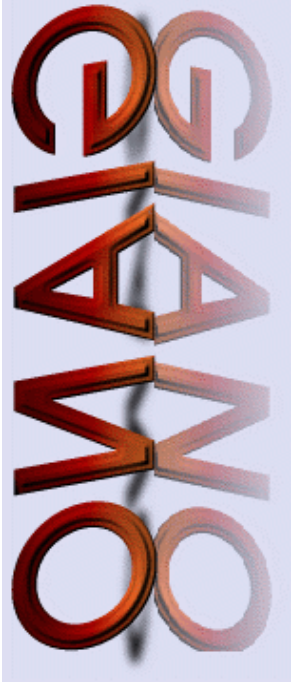


HR mode

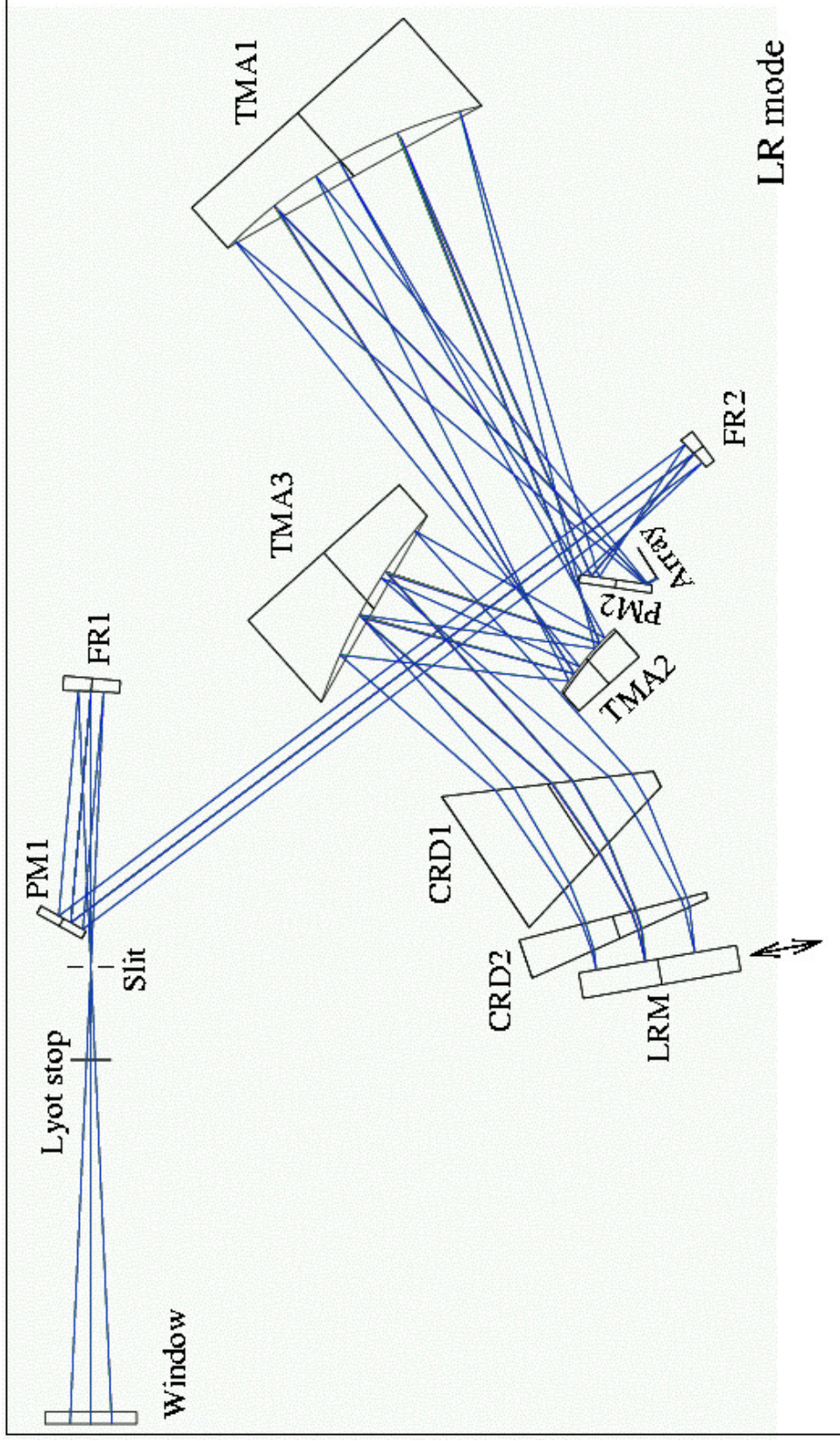
Magnitude limits $J \sim 16$ $K \sim 14.5$
(2MASS)

Quantitative spectroscopy of very
low mass stars

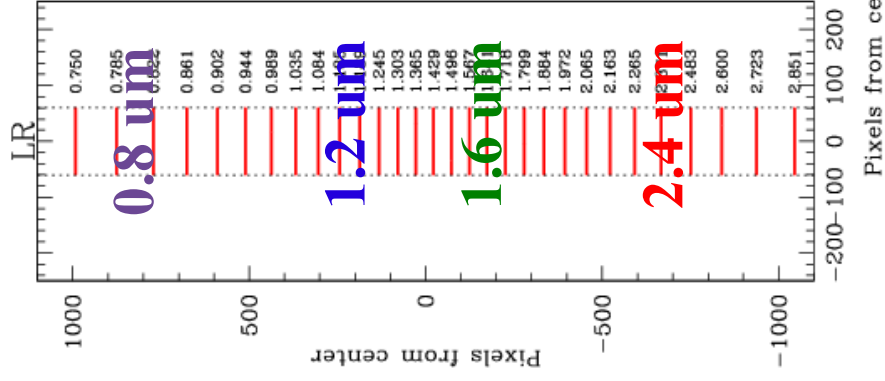
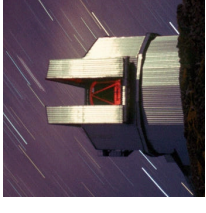
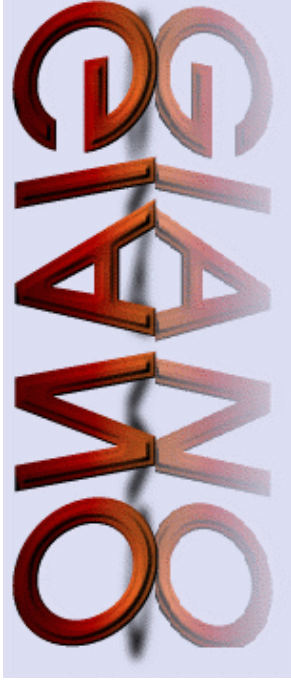
Search for earth-like habitable
planets around old L-dwarfs



Insert a flat mirror and use only the prisms for dispersing: LR mode



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LR mode, long (30'') slit

Complete 0.8-2.5 μm coverage in one shot.

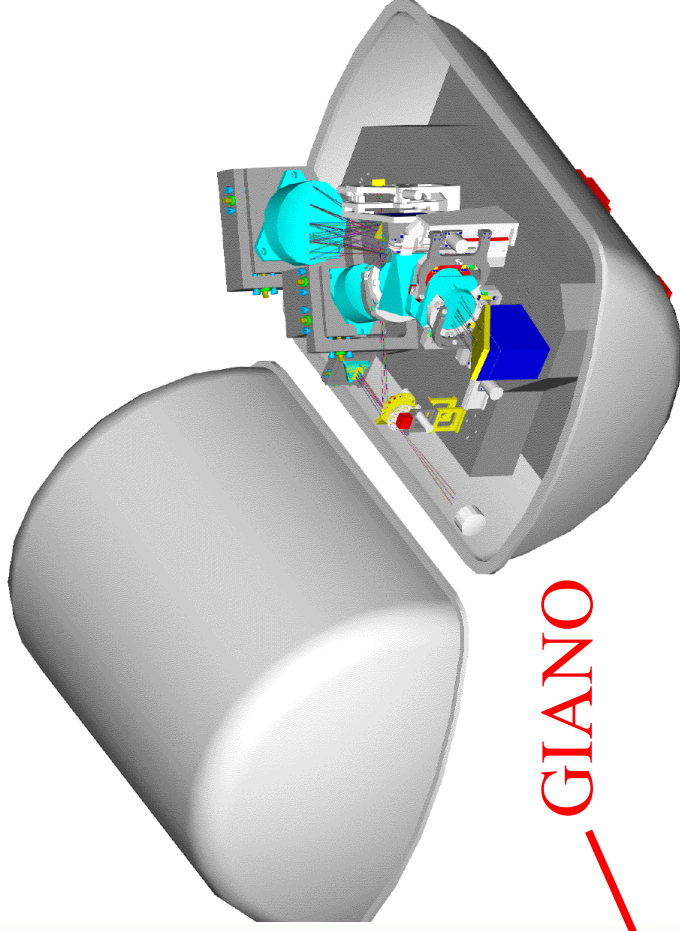
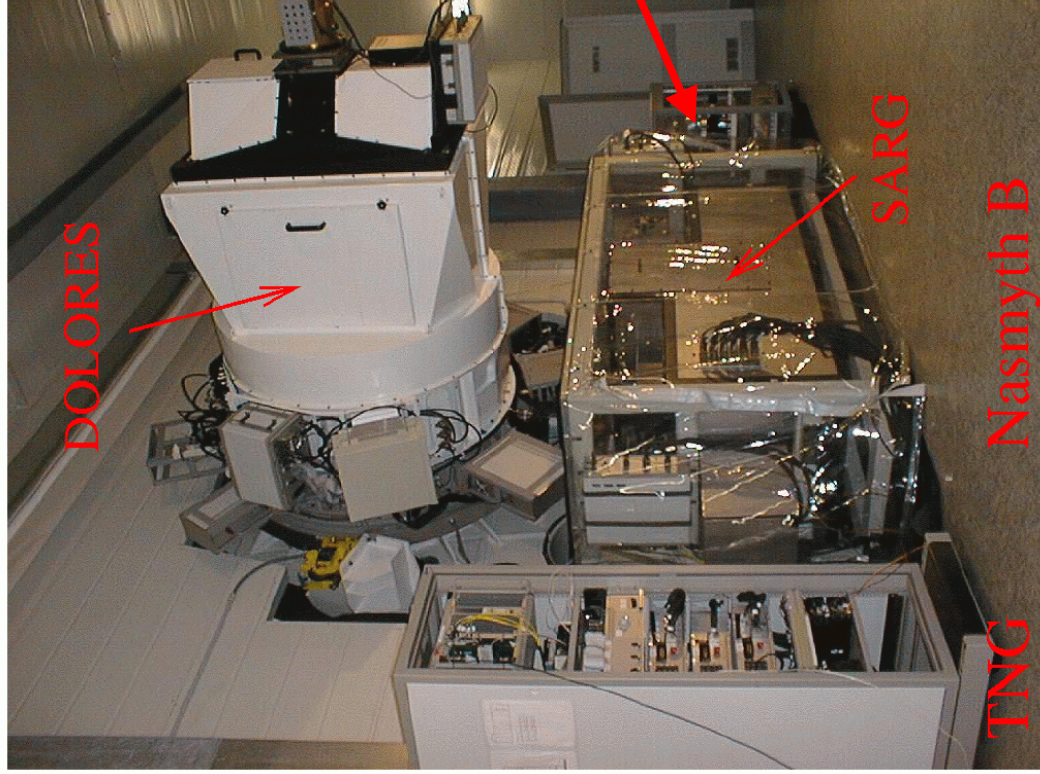
Similar to NICS-Amici but with a 10 x higher resolution

Extremely high efficiency, limiting magnitudes J~20, K~18

Ideal to classify/study Bds and low mass stars



GIAMO



GIANO



2007