



## **High resolution spectra of 9P/Tempel 1 acquired with SARG at La Palma during the flyby of DEEP IMPACT**

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On July 4, 2005 the NASA spacecraft Deep Impact delivered an impactor on the comet 9P/Tempel 1, to study the material underneath the surface of the nucleus. A world-wide observation campaign accompanied the mission, to characterize the activity of Tempel 1 before and after the impact. At La Palma (Canary Islands), the comet was observed from July 2 to July 9 using the echelle spectrograph SARG on the Telescopio Nazionale Galileo (TNG). The spectra have been obtained using a slit 8. arcsec long, providing a resolving power  $R=29000$  in the spectral range 4620-7920 Å. Most of the lines found in the spectra can be attributed to C2, NH<sub>2</sub> and CN; the atomic oxygen lines, both the green line at 5577 Å and the red doublet at 6300 and 6364 Å are clearly visible in every spectrum. All these emission lines have been catalogued and identified, using as a comparison list the catalogue obtained from a spectrum of 153P/2002 Ikeya-Zhang, taken on April 20, 2002 [1], [2]. One of our aims is also to compare between them the spectra taken in the different nights, looking for differences in the lines visible in the orders before and after the impact.

References: [1] Cremonese G. et al. (2006) A&A, in press. [2] Capria M.T. et al. (2005) A&A, 442, 1121-1126