



High resolution observation at TNG of comet 17P/Holmes

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The comet 17P/Holmes had on October 24, 2007 a spectacular outburst. The magnitude of the comet increased in few hours from 17 to almost 3. The event is extraordinary and unprecedented even for a comet that in the past has been already subjected to this phenomenon. It is known since long time that outbursts are a quite common phenomena in comets, but their physical causes are still uncertain and are matter of debate. The comet was observed at the Telescopio Nazionale Galileo, in La Palma, with the cross-dispersed echelle spectrograph SARG. High resolution spectra were obtained in the range 360 - 792 nm. From a preliminary analysis, a number of emission lines is visible, to be attributed mostly to C2 and NH₂. Three atomic oxygen lines can be found in this range, all representing a phenomenon of prompt emission. They can be produced by many reactions that can involve water, CO and CO₂. In one of our spectra these lines are visible and can be separated from the stronger telluric component. The analysis of these lines is interesting, because it can give a hint on the species that is the main responsible for their origin. We are presenting here a preliminary analysis of these spectra and our first results.