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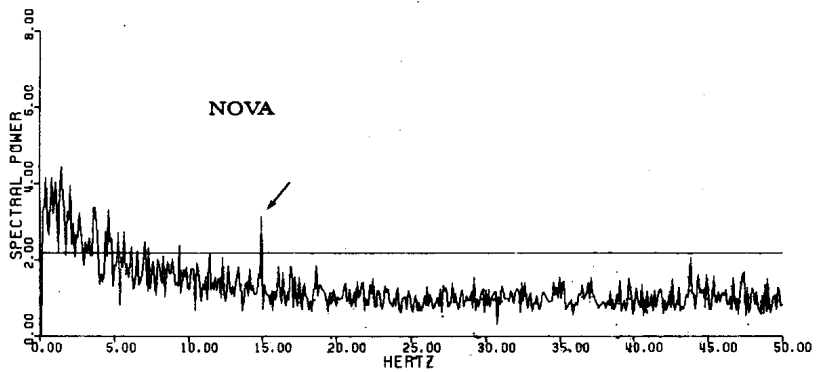
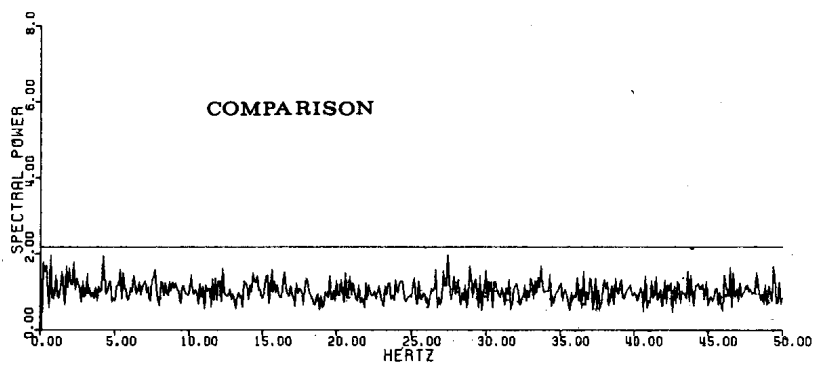
NOVA CYGNI 1978

High speed (sampling time of 0.01 seconds) unfiltered photoelectric observations of Nova Cygni 1978 have been carried out on five nights (13,14,15, 20,21) of September 1978, near its maximum brightness, with the 1-meter Cassegrain telescope of the Astronomical Observatory of Trieste, equipped with a twin-beam photoelectric photometer bearing EMI 6256SA photo-multipliers. The star BD+43⁰4012 ($m_{pg} = 8.7$) was adopted as the comparison star.

The nova showed flickering (up to frequencies of about 5 Hz), characterized by a percent standard deviation ranging from 0.1 to 0.5, variable within every single night as well as from night to night.

Power spectrum analysis revealed no stable periodic brightness variations. However, short living quasi monochromatic oscillations have been observed. On September 14 a ~ 15 Hz (starting time JD 2443766.4555) and a ~ 81 Hz or higher order harmonic (starting time JD 2443766.4862) oscillations lasting 100 \pm 200 seconds were observed. On September 15 oscillations of ~ 0.19 Hz (starting time JD 2443767.37265) monotonically decreasing in amplitude with time and lasting ~ 500 seconds have also been detected.

The figure is representative for the spectra of the comparison star and of the nova during the night of September 14. The time interval starts at JD 2443766.4555 and lasts for ~ 154 seconds. The range below ~ 5 Hz shows clearly a power excess which can be attributed to the flickering of the nova. The figure also evidences a



peak at ~ 15 Hz, which is well above the 99% upper confidence level represented by the horizontal line, whilst simultaneous spectrum of the comparison star does not show evidence of lines at the same frequency.

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