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SPECTRAL CHANGES IN GK PER (1901)

The old nova GK Persei (1901) has been spectroscopically observed during the February-April 1981 outburst with the 122 cm and 182 cm reflectors of the Observatory of Asiago.

An Echelle spectrogram in the $H\alpha$ region (disp. $16 \text{ \AA}/\text{mm}$) taken on March 27.83 UT, when the star was near its light maximum (cf. IAUC 3574, 3587), shows an inverse P Cyg profile.

A prism spectrogram (disp. $60 \text{ \AA}/\text{mm}$ at $H\gamma$) obtained on April 2.85 UT, during the early decline ($m_V \approx 11.6$, from plates obtained at Asiago with the 90/65 cm and the 50/40 cm Schmidt telescopes), shows that the $\text{HeII}\lambda 4686$ emission is considerably stronger than in all our previous spectra until January 1981. The intensity ratio $H\beta/\text{HeII}\lambda 4686$ has changed from ≥ 2.3 (light minimum) to 1.2 (early decline).

On April 14.82 UT and 15.81 UT, during the late decline, two grating spectrograms (disp. $120 \text{ \AA}/\text{mm}$) show a marked weakening of all the emissions: faint $H\alpha$, barely visible $H\beta$ and HeII and no trace of $H\gamma$.

Such a behaviour, also observed during the outburst of some U Gem stars (see Warner, B.:1976, IAU Symp. No.73, p.85), indicates that the H emission decrement is larger than the absorption decrement.

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