**Abstract**

We discuss the chemical abundance analyses of three HgMn stars: 11 Per, HR 2801, and ν Cnc which used high-resolution spectroscopic data from the Coude Echelle Spectrograph (CES) of the 1.5-m Russian Turkish Telescope (RTT150) at Tando, Ankara, Turkey. We report the results of our study.

**Introduction**

We present our first chemical abundance data of three HgMn stars using RTT150-Coude Echelle Spectrographs of TUBITAK National Observatory (TUB). The coupled spectra are based on the emission lines, such as [Si, Cr] which were classified by Adelman et al. (2003) and MacRae (1975) identified the peculiarity of a HgMn star of 11 Per making it a new peculiar A star. Cowley (1972) noticed that the rotational velocities are given as 20 km s\(^{-1}\) for 11 Per (Abt et al. 2002), 10 and 7 km s\(^{-1}\) for HR 2801 (Abt et al. 2002 and 2004) while those of Cnc are 20 km s\(^{-1}\) by Abt & Merrill (1999), 18 km s\(^{-1}\) by Ayer et al. (2003), and 19 km s\(^{-1}\) by Dulk et al. (2003).

Wolff & Lambert (1999) derived the atmosphere parameters as (T\(_{\text{eff}}\) = 10300 K, log g = 3.63) for SB1 type single star 11 Per and (T\(_{\text{eff}}\) = 10375 K, log g = 3.50) for SB1 type single star 11 Per (Adelman 1981) and the H\(\gamma\) last 25 years.

**3. Spectra**

For the three HgMn stars the spectra were recorded at TUBITAK National Observatory with RTT150-Coude Echelle Spectrograph by Prof. Dr. İlhan İnal. They were divided in the profile fitting. We used the coupled spectra covering the elements Fe I and Fe II at resolving power R = 4000. The detector is a Russian mode CCD, with 2000 x 2000 pixels each of which is 15 x 15 μm and liquid nitrogen cooled. The echelle grating has been installed with special focus for more uniform beam of points and emission lines in the CCD frame with an accuracy of 0.13 cm (few CCD pixels). The spectral range of 3700-5700 Å is covered in one frame. It contains echelle spectra data: Fe I 15000-4500 Å, increasing range of 1-2 Å in 4000-7000 Å region and 40 Å at the low end. The dispersion slightly changes depending on the wavelength range of the order. The signal-to-noise ratio varies from 2000 to 5000, and Fe II line profiles are similar to those from high dispersion Dominion Astrophysical Observatory spectrograms in the equivalent width determination.

The photometric abundances of 11 Per, HR 2801 and ν Cnc relative to solar values are 1 dex in the three stars in HR 2801 and ν Cnc and underabundant in 11 Per. In the mean abundance of the light elements the three stars are underabundant by 0.64 dex in 11 Per, 0.37 dex in HR 2801 and 0.28 dex in ν Cnc. In 11 Per the strontium is underestimated derived from line to line other heavier elements ν Cnc is extremely underabundant.

**4. Determinations**

To perform the detailed spectroscopic analysis of three stars by using spectral data of the TUBITAK National Observatory Coude Echelle Spectrograph of the Russian-Turkish 15.5-m Telescope we examined the three HgMn stars. That equivalent width are similar to those from high dispersion Dominion Astrophysical Observatory spectrograms in the range of various indices that the resulting spectral analysis using the same techniques should be of similar quality. Thus the observational data is well suitable for the study of B-A stars based on EW measuring and chemical analyses.