# Spectroscopic monitoring of bright Galactic nova ASASSN-22hw

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The discovery of ASASSN-22hw (now also AT 2022mmp and Nova Mus 2022) was reported to the Transient Name Server by K. Z. Stanek on the behalf of the ASAS-SN team on June 10, 2022. The object was proposed to be a 'likely galactic nova' already in the decline. The first spectroscopic observations of one of us (H.B.), that were already reported to TNS on June 11, confirmed the nova nature of the transient. The request for subsequent observations was made through the AAVSO Alert Notice 781.

The recent ASAS-SN light curve of the source (Shappee et al., 2014, ApJ 788, 48; Kochanek et al., 2017, PASP, 129, 104502) shows the maximum brightness of g = 8.7 mag that occurred on June 8, 2022. In the five days after the first detection, the brightness declined by about 1.7 mag already. The minimum pre-outburst magnitude derived from the Gaia EDR3 data by Patrick Schmeer and reported to the International Variable Star Index was about V = 19.8 mag. The photometric follow-up is also available in the AAVSO database.

Up to now, we have obtained six low-resolution spectra of Nova Mus 2022 between June 10 and June 15, 2022 using the setups in Chile (30-cm Ritchey-Chretien telescope; Alpy600 spectrograph), New Zealand (20-cm Newtonian telescope with L200 Littrow spectrograph; 30-cm Ritchey-Chretien telescope with Alpy600 spectrograph), and Australia (32-cm Planewave CDK telescope; UVEX spectrograph). All the spectra consistently revealed very broad emission spectral lines of H I, He I, N II, N III, CIII, consistent with the nova classification of the transient. The strength of emission lines is still rising. The spectroscopic appearance of Nova Mus 2022 is similar to our spectra of U Sco (recurrent nova that is currently in the outburst; see, e.g., ATel #15423) obtained a few days after brightness maximum.

The data are continually submitted to the ARAS database.