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## Swift-X-ray detection of nova V462 Lup

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Post

The optically-bright nova V462 Lup (Nova Lupi 2025; ASASSN-25cm; [AT 2025nlr](#)) was discovered on 2025 June 12 at 20:52:48 UT ([TNS](#)) and classified as a classical nova two days later (ATel #17228). Observations with the Neil Gehrels Swift Observatory began on 2025 June 19, with 1-2 ks exposure being collected every few days. Because of the optical brightness, until August 10 the UV/Optical Telescope (UVOT) had to be blocked, and the the X-ray Telescope (XRT) operated in Windowed Timing mode, to avoid optical loading. During this time, no X-ray source was significantly detected.

By August 22, the nova had faded sufficiently such that the XRT could be switched to Photon Counting mode. In 2 ks of data, a clear X-ray source was detected, with a 0.3-10 keV count rate of  $(6.7 \pm 1.8/-1.4) \times 10^{-3}$  count s<sup>-1</sup>. Although only 10 source counts were measured in this observation, the spectrum is clearly absorbed, and can be fitted by a single-temperature optically-thin plasma with  $kT > 0.5$  keV and  $N_H = (12 \pm 38/-9) \times 10^{22}$  cm<sup>-2</sup>. The observed (unabsorbed) flux over 0.3-10 keV is  $1.5 (4.2) \times 10^{-12}$  erg cm<sup>-2</sup> s<sup>-1</sup>.

An ultraviolet spectrum was also taken on August 22, which shows bright emission lines of predominantly N II and III, C II and III, O II and III, Si II and Mg II. V462 Lup is therefore a CNO nova and has entered the nebular phase. The emission lines reach a brightness of approximately  $10^{-10}$  erg cm<sup>-2</sup> s<sup>-1</sup>, with a continuum at  $5 \times 10^{-13}$  erg cm<sup>-2</sup> s<sup>-1</sup> A<sup>-1</sup>.

Further Swift observations are planned, and we thank the Swift PI, Brad Cenko, and his deputies for approving the time, as well as the Swift planning and operations teams for their continuing support.

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