

# U Sco 2010 outburst: observational evidence of an underlying ONeMg white dwarf

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This paper presents U Sco nebular spectra collected in the period March-May 2010 after the binary outburst on Jan 28, 2010. The spectra display strong [Ne V] and [Ne III] lines that can be used to compute the relative abundance of [Ne/O]. The value obtained ( $[\text{Ne}/\text{O}]=1.69$ ) is higher than the typical [Ne/O] abundance found in classical novae from CO progenitors and suggests that U Sco has a ONeMg white-dwarf progenitor. It follows that U Sco will not explode as a SN Ia but rather collapse to become a neutron star or a millisecond pulsar.

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