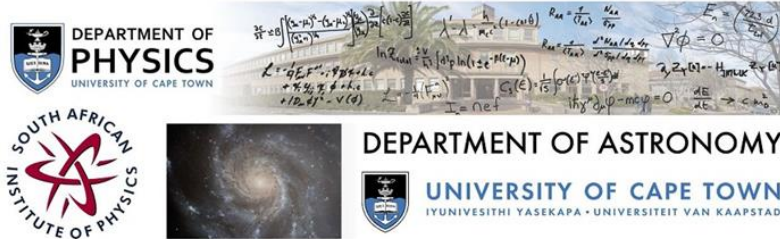


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Contribution ID : 62

The long-term evolution of the helium nova V445 Puppis

Thursday 07 Jul 2016 at 11:10 (00h20')

Abstract :

Nova Puppis 2000 (V445 Pup) is the first - and so far only - helium nova detected in the Milky Way. From high angular resolution imaging and spatially-resolved kinematics we derived an expansion parallax of V445 Pup indicating a distance of 8.2 kpc. Here we report on two epochs of integral field unit spectroscopy of the helium nova V445 Pup using the 6.5-m Magellan-I telescope and the IMACS spectrograph. From observations taken one year apart, approximately 5 and 6 years after the nova explosion, we are able to resolve the kinematic signatures of the bipolar shell and isolate the spectra of the fast moving knots at the polar extremes of the ejecta. The latter are dominated by emission lines of oxygen, with no trace of the helium lines seen in the bulk of the ejecta. The fast moving knots are seen in two epochs of HST narrow band [OIII] imaging in 2013 and 2015. We discuss the implications of the unusual abundances and kinematics of this rare nova explosion.

Award :

No

Level :

N/A

Supervisor :

N/A

Paper :

Yes

Permission :

Yes

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