Is Nova Cep 2013 currently forming dust ?

ATel #4893; U. Munari (INAF Asiago), S. Dallaporta, G. Cherini, F. Castellani, G. Cetrulo, P. Valisa, M. Graziani (ANS Collaboration)
on 17 Mar 2013; 20:26 UT
Credential Certification: U. Munari (ulisse.munari@oapd.inaf.it)

Subjects: Infra-Red, Optical, Nova

Nova Cep 2013 was discovered by K. Nishiyama and F. Kabashima on Feb 2.4 UT at 10.3 unfiltered magnitude (CBET 3397). We started immediately an intensive photometric and spectroscopic (low and high resolution) monitoring of this FeII nova. We found that the nova reached maximum brightness around Feb 4.2 UT at B=13.15, V=11.23, Rc=9.94 and Ic=8.81. Color at maximum, equivalent width of interstellar KI 7699 line and intensity of diffuse interstellar band at 6614 Ang, support an interstellar reddening amounting to E(B-V)=1.8. The nova was characterized by a fast and relatively smooth decline, with t(2)=12 day, that continued until Mar 13, when it was measured at B=16.21, V=14.61, Rc=12.58 and Ic=11.54, values derived via PSF fitting because of the emergent visibility of a field star a few arcsec away. Then, suddenly, in just 48 hours the nova dropped to V=16.76, Rc=13.80 and Ic=12.68, falling below detection in B band. This drop by 2.2 mag and large increase in the red slope of the energy distribution (from V-Ic=3.07 to 4.08) came without major changes in the spectra, both in terms of emission lines appearance, velocity width or ionization degree. This behaviour suggests that dust is currently condensing in the ejecta of Nova Cep 2013. We encourage the acquisition of infrared observations that are needed to firmly prove the above suggested interpretation of the behaviour that Nova Cep 2013 is displaying at optical wavelengths.