

**Properties of dust around Eta Carinae during the periastron event in 2009 based on near infrared multi-epoch photometric observations with the Wide Field Cryogenic Telescope 2 (WFCT 2)**

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Eta Carinae is known as one of the most massive binary system in a relatively old stage in its evolution. It has shown drastic variations in brightness, at least, during past few centuries. In recent several decades, it is known that this star has a periodic variation in brightness at various wavelengths occurring every 5.54 years, which corresponds to the orbital phase of the binary system, and it is termed as "spectroscopic event". Most believed that during this event dust is formed around Eta Carinae due to the wind-wind collision. The near-infrared observation was carried out during the 2009 spectroscopic event with the WFCT 2 in South Africa, which covered a period before and after the spectroscopic event. In this report we present the data from 10 to 29 January 2009. The light curve that we obtained from the data shows a steep decline in this period. Our interest is the properties of the dust grain around Eta Carinae in such a small time span near the spectroscopic event. Monitoring of the variation in near-infrared light curve is quite efficient to investigate the properties of the hot dust. The result shows that the dust temperature increases while the dust mass decreases. Our data lead to that there is some destruction of dust in a few weeks around the spectroscopic event.