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Dust shell around WISE J180956.27–330500.2 II. Subaru/COMICS observation and dust shell modeling

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WISE J180956.27–330500.2 (hereafter WISE J1810) was discovered by us in the course of studying the *WISE* Preliminary Source Catalog (Gandhi et al. 2012, ApJ 751, L1; Yamamura et al. ASJ meeting 2012b N19a). The SED of the object composed of 2MASS, *AKARI*, and *WISE* data looks quite peculiar, showing an attenuation of more than two orders of magnitude at 3–4 μm . We argue that WISE J1810 is a transient object that experienced an explosive mass ejection about 15 years ago. The ejected matter formed a very thick circumstellar envelope, which has been expanding and cooling.

We are running a project of follow-up observations in various wavelengths to reveal the nature of this object. A preliminary results of near-IR photometry by IRSF and far-IR/sub-mm photometry by *Herschel* were reported in the previous ASJ meeting (2013a-N20a). This time we report the results of mid-IR spectroscopy and photometry by Subaru/COMICS obtained in July 2013. The *N*-band spectroscopy detected a silicate absorption feature, which confirms that the dust shell of WISE J1810 is oxygen-rich and optically very thick. We also discuss the results of further approach of dust shell modeling based on the data.