## R11a High angular resolution mid-infrared imaging of the M82 starburst core

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M82 is the prototypical starburst in the nearby universe. Yet, it has not been imaged at the highest angular resolution possible in the mid-IR with 8-m class telescopes. I present new imaging at 12.81 and 11.7 microns of the central 0.7x0.5 kpc of the starburst core with the COMICS instrument on Subaru. With a diffraction-limit of about 0.4 arcsec, these images provide the clearest view to date of the base of the kpc-scale dusty wind known in this galaxy. Many complex structures pinpointing multiple ejection sites for the dust are seen. In general, the distribution of dust probed in the mid-IR anticorrelates with the locations of massive star clusters that appear in the near-infrared. The total 10-21 micron mid-IR emission may be represented by hot dust with temperature of 160 K. Most discrete sources are found to have extended morphologies, and several radio HII regions are identified for the first time in the mid-IR. The only potential radio supernova remnant to have a mid-IR counterpart is a source which has previously also been suggested to be a weak active galactic nucleus. This source has an X-ray counterpart in Chandra data which appears prominently above 3 keV and is best described as a hot ( 2.6 keV) absorbed thermal plasma with a 6.7 keV Fe K emission line, in addition to a weaker and cooler thermal component. The broad-band source properties are complex, but the X-ray spectra do not support the active galactic nucleus hypothesis. This may be a compact star cluster or an powerful supernova remnant.