S39a 3–500 μm IR properties of the 70-month *Swift*/BAT AGN

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We investigate the near- (NIR) to far-infrared (FIR) photometric properties of a nearly complete sample of local active galactic nuclei (AGN) detected in the *Swift*/Burst Alert Telescope (BAT) all-sky ultra hard X-ray (14–195 keV) survey. Out of 606 non-blazar AGN in the *Swift*/BAT 70-month catalog at high galactic latitude of $|b| > 10^{\circ}$, we obtain IR photometric data of 604 objects by cross-matching the AGN positions with catalogs from the *WISE*, *AKARI*, *IRAS*, and *Herschel* infrared satellites. We find a good correlation between the ultra-hard X-ray and mid-IR (MIR) luminosities over five orders of magnitude ($41 < \log(L_{14-195}/\mathrm{erg\ s^{-1}}) < 46$). Informed by previous measures of the intrinsic spectral energy distribution of AGN, we find FIR pure-AGN candidates whose FIR emission is thought to be AGN-dominated with low starformation activity. We also show that the completeness of the *WISE* color-color cut in selecting *Swift*/BAT AGN increases strongly with 14–195 keV luminosity. The result is based on the paper of Ichikawa et al. (2016), accepted to ApJ, arXiv:1611.09858.