S18a Witnessing the final stage of AGN in Arp 187

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We investigate optical, infrared, and radio active galactic nucleus (AGN) signs in the merger remnant Arp 187, which hosts luminous jets launched in the order of 10^5 yr ago but whose present-day AGN activity is still unknown. Our study indicates that there are clear AGN signs based on a larger physical scale with ~ 1–10 kpc. In addition to the existence of radio-jets, the location of the optical BPT diagram and the marginal detection of infrared [O IV]25.89 μ m line show the existence of the narrow line regions. The estimated 2–10 keV luminosity inferred from the optical [OIII] λ 5007 emission is $L_{2-10} \simeq 1.1 \times 10^{43}$ erg s⁻¹, which is a typical value of Seyfert galaxies. On the other hand, Spitzer/IRS shows host galaxy dominated spectra, suggesting that the thermal emission from the AGN torus is considerably small, and the upper limit of the AGN 12 μ m luminosity is estimated to be $L_{12\mu m} \leq 1.5 \times 10^{42}$ erg s⁻¹, which is equivalent to $L_{2-10} \leq 2.8 \times 10^{42}$ erg s⁻¹. Finally, no radio core was found at 4.9 and 8.5 GHz band. Combining the black hole mass, the upper limit of radio luminosity of the core, and the fundamental plane of the black hole enables us to estimate an X-ray luminosity, which gives $L_{2-10} < 10^{40}$ erg s⁻¹. Those results suggest that the AGN activity of Arp 187 has already been quenched, while the jet lobes and the narrow line regions still remain bright due to the light-travel time from the central engine. See Ichikawa et al. (2015), PASJ, in press (arXiv:1510.06037) for more details of this study.