Expanding VLBI in East Asia and AGN science

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The international VLBI collaboration in East Asia is rapidly growing. Besides the successful integration of KVN and VERA (KaVA), now the network is expanding into China. This forms so-called the East Asian VLBI Network (EAVN) and stimulates the activities of joint science promotion among researchers in this area.

One of the primary science goals of KaVA/EAVN is to understand the physics of accretion and ejection in active galactic nuclei (AGN) and associated high-energy phenomena. The capability of quasi-full-year operation of KaVA/EAVN is suitable for monitoring the detailed structural evolutions (and multi-frequency mm polarization for KVN) of relativistic jets. This allows us to address some major questions about jets such as the acceleration mechanisms, connection to gamma-ray flares and magnetic-field properties.

Some of key AGN programs are project-led and promoted by the KaVA/EAVN AGN Science Working Group. This includes a massive monitoring program of SgrA* and M87 near in time to the EHT campaign, EAVN+Italy global VLBI ("EATING" VLBI) observations of powerful jets, as well as monitoring of some more individual sources. In this contribution, I will overview the ongoing expansion of EAVN array and glowing activities on AGN studies based on KaVA/EAVN.

(Maybe my talk would be suitable for either AGN or VLBI Arrays. I leave the allocation to SOC)