

## Correlations of Active Galactic Nuclei with Microquasars

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Abstract: Correlations of active galactic nuclei (AGNs) with microquasars are discussed based on the coexistence of the Blandford--Znajek (BZ) and magnetic coupling (MC) processes (CEBZMC) in black hole (BH) accretion disk. The proportions of several quantities of BH systems for both AGNs and microquasars are derived by combining the observational data with CEBZMC. It is shown that the square of the magnetic field at the BH horizon is inversely proportional to the BH mass, while the accretion rate of the disk is proportional to the BH mass. In addition, the very steep emissivity indexes from the recent XMM-Newton observations of the nearby bright Seyfert 1 galaxy MCG-6-30-15 and the microquasars XTE J1650-500 are well fitted by considering the MC effects on the disk radiation. These results suggest strongly the correlations of AGNs with microquasars.

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Key words: accretion, accretion disks, MCG-6-30-15, 4C+11.50, 3C345, 3C273, XTE J1650-500, GRO J1655-40, XTE J1550-564, GRS 1915+105

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