

# X-ray properties of reverberation-mapped AGNs with super-Eddington accreting massive black holes

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**Abstract.** Active Galactic Nuclei (AGN) exhibit multi-wavelength properties that are representative of the underlying physical processes taking place in the vicinity of the accreting supermassive black hole. The black hole mass and the accretion rate are fundamental for understanding the growth of black holes, their evolution, and the impact on the host galaxies. Recent results on reverberation-mapped AGNs show that the highest accretion rate objects have systematic shorter time-lags. These super-Eddington accreting massive black holes (SEAMBHs) show BLR size 3-8 times smaller than predicted by the Radius-Luminosity (R-L) relationship. Hence, the single-epoch virial black hole mass estimates of highly accreting AGNs have an overestimation of a factor of 3-8 times. SEAMBHs likely have a slim accretion disk rather than a thin disk that is diagnostic in X-ray. I will present the extreme X-ray properties of a sample of dozen of SEAMBHs. They indeed have a steep hard X-ray photon index,  $\Gamma$ , and demonstrate a steeper power-law slope,  $\alpha_{ox}$ .

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