



THE CHINESE UNIVERSITY OF HONG KONG
Department of Physics
COLLOQUIUM

Coronal Magnetic Activity in nearby Active Supermassive Black Holes

by



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Join ZOOM Meeting: <https://cuhk.zoom.us/j/91449333279>



ALL INTERESTED ARE WELCOME

Abstract

Central supermassive black holes of active galactic nuclei (AGNs) host hot plasma with a temperature of 10^9 K, namely coronae. Like the Sun, black hole coronae are theoretically believed to be heated by their magnetic activity. However, such activity has not been observed yet. In this talk, I will report the first clear detection of coronal magnetic activity in nearby AGNs using ALMA (radio telescopes). The coronal magnetic fields are typically ~ 10 G on scales of ~ 40 Schwarzschild radii. The measured magnetic field is weaker than the theoretical expectation, requiring a new corona heating mechanism. I will also discuss particle acceleration processes in the coronae of Seyferts, which may be the production sites of the high energy neutrinos seen by IceCube.