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CULTASK: Launching Axion Experiment in Korea

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The Center for Axion and Precision Physics Research (CAPP) at IBS is establishing a state-of-the-art axion experiment in Korea to search for relic axion particles converting to microwave photons in a resonant cavity submerged in a strong magnetic field. The initial stage of building our axion experiment, CULTASK (CAPP Ultra Low Temperature Axion Search in Korea) is completed at KAIST (Korea Advanced Institute for Science and Technology) Munji Campus with successful installation of two new dilution refrigerators (one with 8T superconducting magnet) which could lower the temperature of cavities to less than 50 mK. A resonant cavity with the frequency tuning system is fabricated and the RF readout electronic chain is being set up. I will present the status and progress of CULTASK, soon to be complete with a DAQ and monitoring system, and future plans. I will also discuss the recent results from the development of high Q-factor, ultra pure Cu and Al cavities under high magnetic fields, utilizing the two refrigerators.

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