

# The IBS/CAPP magnetometer station for the GNOME experiment is running

*Friday, July 6, 2018 8:15 PM (15 minutes)*

The Global Network of Optical Magnetometers to search for Exotic physics (GNOME) is an experiment looking for transient events of axion domain walls from the gradient coupling of axion field with atomic spins [1][2]. GNOME is based on synchronized measurements from multiple GPS-timed magnetometer stations located in geographically separated places on the Earth [3]. While a single magnetometer could detect spin signals from such terrestrial events, it would not be possible to distinguish real physics events from false ones caused by environmental noise sources. GNOME can effectively veto false events by arraying magnetometer stations. One of those stations located at IBS/CAPP in Daejeon, South Korea employs cesium alkali atoms as a primary magnetometer. We present the optimization and characterization of the Cs magnetometer at IBS/CAPP as well as the first preliminary test run results.

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**Session Classification:** POSTER

**Track Classification:** Beyond the Standard Model