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Towards the ultimate axion dark matter sensitivity in the 1-20 GHz frequency range

Thursday, 5 December 2019 16:00 (30 minutes)

The IBS-CAPP has currently accomplished all its technical challenges towards achieving the ultimate sensitivity in axion dark matter: DFSZ level even for 10% axion dark matter content in the local halo. Early next year we are expecting to receive a low temperature superconducting (LTS), 12T magnet LTS-12T/320mm, based on Nb3Sn cable, from Oxford Instruments, which will enable us to cover the 1-8 GHz axion frequency range. For the rest of the frequency range of 8-20 GHz we need to finish the high temperature superconducting (HTS) 25T magnet being developed at BNL. I will present the current status and the rising competition from around the world for the various frequency ranges.

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