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Grenoble Axion Haloscope (GrAHal) projects in collaboration with DMAG/IBS for Axion Dark Matter Search

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A collaboration between three main laboratories of CNRS, Université Grenoble-Alpes and DMAG/IBS in South Korea (ex-CAPP) is bringing together key expertises to build and operate several haloscopes for axion dark matter searches with unprecedented sensitivity. Based on existing infrastructures at Grenoble like the 9 T/43 T modular hybrid magnet of LNCMI recently put in operation up to 8.5 T/42 T as a first step, the technological know-hows of Institut Néel to develop novel quantum amplifiers together with ultralow temperature cryogenics (< 50 mK) and of DMAG/IBS for RF cavities, GrAHal-DMAG plans to reach beyond state-of-the-art sensitivities focusing first to the 1-3 micro-eV axion mass range (300-600 MHz) with a large bore RF cavity in copper as well as around 52.77 micro-eV (12.76 GHz) with a high temperature superconducting one.

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