PTOLEMY: Experimental Quest to Detect Relic Neutrinos from the Big Bang

Neutrinos produced in the early moments of the Big Bang are believed to be the second most abundant particle in the Universe. A method of experimental detection, called PTOLEMY, has been developed to map the flux of neutrinos on the sky and provide independent confirmation of the power spectrum from the inflationary pre-Big Bang period. The challenges of ultracold relic neutrino detection have led to new advances in material technologies, RF detection and an electromagnetic spectrometer which doubles as a new type of particle accelerator with potential use for plasma heating. The current status and outlook of PTOLEMY are presented.

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zoom:
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