



## Cyclotron radiation detection to search for new physics

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Chirality plays a fundamental role in the Standard Model, where the charged weak current is modeled as purely left handed. Models for new physics naturally break this symmetry, so sensitive searches for chirality-flipping interactions could be a powerful tool for discovery.

We will discuss a proposal for a sensitive search for chirality-flipping interactions by measuring the beta spectrum of  ${}^6\text{He}$  and other nuclei. We plan to measure the energies via cyclotron radiation emission spectroscopy (CRES) recently demonstrated by the Project 8 collaboration, extending its use to the broader range of electron energies of the  ${}^6\text{He}$  and other nuclear beta decays.

We will also discuss other possible applications, including experiments that could be carried out at radioactive beam facilities.

Wednesday

December 5

4:00 P.M.

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