

Measurement of Quenched Axial Vector Coupling Constant in In-115 Beta Decay and its Impact on Future $0\nu\beta\beta$ Searches

$0\nu\beta\beta$ is a nuclear process under investigation by numerous experiments, which if detected would demonstrate that neutrinos are Majorana particles. $0\nu\beta\beta$ samples a wide range of intermediate forbidden nuclear transitions, which are governed by the quenched axial vector coupling constant (g_A^{eff}), the uncertainty of which plays a pivotal role in the uncertainty of the nuclear matrix elements. The recently reexamined role of g_A^{eff} in these transitions has prompted measurements of g_A^{eff} in highly forbidden decays via beta shape investigation with high resolution and low threshold bolometers. In this poster, we present measurements performed on an $LiInSe_2$ bolometer, with a 4th order forbidden decay spectrum in In-115. This decay is sensitive to similar nuclear effects as $0\nu\beta\beta$. We will discuss the obtained results along with possible impacts this study has for future $0\nu\beta\beta$ measurements.

Session and Location

Monday Session, Poster Wall #82 (Auditorium Gallery Left)

Poster included in proceedings:

no

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