

Development of novel germanium detectors for rare event physics searches

Friday, May 13, 2022 8:30 AM (30 minutes)

The University of South Dakota (USD) has been active in germanium (Ge) crystal growth and Ge detector development for rare event physics searches for more than 10 years. This talk will give an overview of the USD's R&D on novel Ge detectors made with USD grown crystals. Three new types of Ge detectors including Ge detectors with internal charge amplification, thincontact Ge detectors, and ring-contact Ge detectors, are currently under development at USD.

The physics motivation, the technical challenges, and the current status of the detector development will be addressed. The correlation between different projects will also be presented.

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