



Contribution ID: 196

Type: Oral

## Simultaneous Searches for WIMP Dark Matter and $0\nu\beta\beta$ Decay at the Ton-Scale with a High-Pressure Xenon gas Electroluminescent TPC

*Tuesday, 22 May 2012 16:20 (20 minutes)*

Future experimental sensitivity goals for both WIMP dark matter and  $0\nu\beta\beta$  decay searches converge on ton-scale active masses, and even much more. Background requirements for both searches have many similarities. Xenon is a prominent candidate for new experimental efforts in both topics at this scale. The question naturally arises whether both searches can be made in a single xenon-based detector –without significant compromise to either. In addition to new experimental results, we will present the rationale and some design and cost issues for a ton-scale electroluminescent TPC detector. In the coming era of severe fiscal pressures on large-scale science, it is important that a true dual-purpose detector be considered seriously.

### for the collaboration

NEXT

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