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## Potassium Geoneutrino Detection

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Detecting geoneutrinos from potassium-40 decay in the Earth remains a challenge due to its decay endpoint being below the energy threshold of the inverse beta decay reaction on protons (used to detect U and Th geoneutrinos). Several nuclear targets for charged-current neutrino reactions do have lower threshold energies. Our study identified a particularly promising candidate, copper, and proposes Cu-doping a LiquidO opaque scintillator, an approach that is amenable to very high doping levels. Event topology information provided by LiquidO would offer powerful signal tagging and background rejection, both necessary for detecting K-40 geoneutrinos. The experimental concept, its methodology, discovery significance and backgrounds will be presented.

### Submitted on behalf of a Collaboration?

Yes

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