



ELOISE – RELIABLE BACKGROUND SIMULATION AT SUB-KEV ENERGIES

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- EXPERIMENTS LIKE CRESST AND NUCLEUS THAT ARE SEARCHING FOR RARE EVENTS USE CaWO_4 AND Al_2O_3 TARGETS AT $\mathcal{O}(10 \text{ eV})$ ENERGY REGIME
- A RELIABLE BACKGROUND SIMULATION IS CRUCIAL
- SIMULATION CODES LIKE GEANT4 ARE NOT VALIDATED FOR THESE MATERIALS & ENERGIES
- NO EXPERIMENTAL REFERENCE DATA ARE AVAILABLE
- OVER FOUR YEARS ELOISE WILL VALIDATE AND, IF NEEDED, DEVELOP IMPROVED PHYSICS MODELS FOR CaWO_4 AND Al_2O_3 AT SUB-keV ENERGIES