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### **Low Radioactivity Background Techniques**

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Ultra-low-background experiments address some of the most important open questions in particle physics, astrophysics and cosmology today: the nature of dark matter, whether the neutrino is its own antiparticle and does the proton decay. To address these questions, rare event searches require well-understood and minimized backgrounds. Experimentalists rely on a variety of assay methods and techniques to characterize the radioactivity and impurities in their detectors, shielding and construction materials which produce backgrounds. In this talk, I will review the current techniques and methods used to assay materials used in the construction of these experiments and highlight the assay challenges the experimental community will face as we continue to push towards the next generation of experiments that will address these important questions.