

Application of surface coatings for radon emanation mitigation

For many current detectors aimed at rare-event searches, radon is a dominating source of background. These experiments can strongly benefit from the reduction of ^{222}Rn that is released by metallic surfaces within the setup. A new radon mitigation strategy employing thin surface coatings has been studied and significant reduction factors of the ^{220}Rn and ^{222}Rn emanation rates were found. Results for different deposition techniques such as sputtering, plasma deposition and electrodeposition will be summarized and outlooks on possible leads for further developments will be given.

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