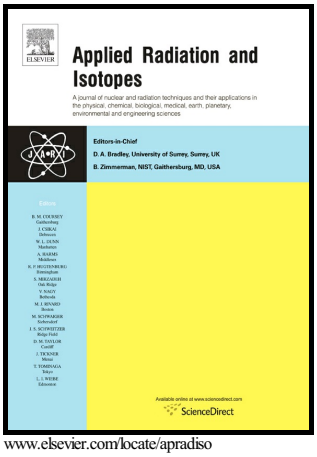

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The temperature dependence of adsorption coefficients of ^{222}Rn on activated charcoal: an experimental study

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Abstract

The radon adsorption coefficient of activated charcoal (*K*) has exponential relationship with temperature theoretically, but few experiment results of *K* at temperature below 0 ℃ were given. In this study, *K* were measured using a flow-through system with activated charcoal in cylindrical adsorption beds at temperature adjusted from room temperature to -48℃ using liquid nitrogen. Results are consistent with theory and show that the adsorption coefficient at -48 ℃ is nearly 25 times higher than that at 23℃.

activated charcoal; radon; adsorption coefficient; temperature dependence

1. Introduction