

放射性核素迁移的实验室研究—— II .用混合裂变产物溶液研究核素在地质材料上的吸附

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摘要 应用裂变产物混合物做为示踪剂研究了 ^{137}Cs , $^{141,144}\text{Ce}$, $^{103,106}\text{Ru}$, ^{95}Zr , ^{95}Nb , $^{89,90}\text{Sr}$ 在花岗岩、凝灰岩、页岩上的吸附行为。应用批式技术测定了吸附比。核素的 γ 放射性是用连有SCORPIO-3000多道计算机系统的Ce(Li)探测器测量的。 β 放射性 $^{89,90}\text{Sr}$ 是放化分离后在G-M计数器上测量的。结果表明:凝灰岩、页岩能强烈吸附Ce,Nb,Zr;吸附Cs居中;吸附Sr,Ru较差;花岗岩的吸附性能都差。

关键词 [核素迁移](#) [裂变产物](#) [吸附比](#)

分类号

LABORATORY STUDIES OF RADIONUCLIDES MIGRATION II . INVESTIGATION OF SORPTION OF RADIONUCLIDES ON GEOLOGICAL MEDIA USING MIXTURE OF FISSION PRODUCTS AS A TRACER

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Abstract Sorption of radionuclides ^{137}Cs , $^{141,144}\text{Ce}$, $^{103,106}\text{Ru}$, ^{95}Zr , ^{95}Nb , $^{89,90}\text{Sr}$ on rock samples is investigated using a mixture of fission products as a tracer. A batch technique is used to determine the sorption ratio of nuclides on granite, tuff and shale. The γ -activity of nuclides is counted on a Ge(Li) detector coupled to a SCORPIO-3000 multichannel— computer system. The β -activity of $^{89,90}\text{Sr}$ is measured on GM counter after radiochemical separation. The results show that rock samples of tuff and shale have very high sorption ratios for Ce, Nb, Zr, medium ratios for Cs and very low ratios for Sr and Ru, while those of granite show lower ratios for nuclides investigated.

Key words [Migration](#) [Fission products](#) [Sorption ratio](#)

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通讯作者

扩展功能

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