
A Tentative Test for Homogeneity and Boron Contents of Neutron Shield Concrete

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In recent years, neutrons have been studied for applications in fields such as material analysis and boron neutron capture therapy. In order to create a compact shield for these facilities, a type of concrete able to shield against neutrons has been developed. In order to ensure adequate shielding performance, it is important to verify the homogeneity of the concrete. In this research, neutron radiography images of the concrete were taken and the transmission ratio of the thermal neutrons and boron contents were tentatively estimated. The results showed that the transmission ratio of the concrete was almost the same at the center, and also found that it was possible to estimate the boron content.