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IMPORTANCE OF BACKGROUND ANALYSIS OF XENON IN NIGERIA: A STUDY WITHIN 4°-14° N LATITUDE AND 3°-14° E LONGITUDE

A background analysis of xenon in Nigeria would enhance the understanding of its release and dispersion from reactors and natural sources. Although Nigeria lacks a nuclear power plant, it operates a research reactor in Zaria (11.1512° N, 7.6546° E) and is planning a 2GW multipurpose research reactor in Sheda (8.8569° N, 7.0434° E). Nigeria's strategic location between IMS stations in Niger (RN48) and Cameroon (RN13 and PS26) offers a unique opportunity for xenon background studies within a semi-dense network. The establishment of the West Africa Nuclear and Radiation Monitoring, Detection, and Response Centre will further enhance radiation monitoring, contribute data to the IAEA's IRMIS, and potentially link to the CTBTO IDC. Conducting xenon background analysis in Nigeria would significantly contribute to global radionuclide studies, while also providing essential knowledge for the accurate understanding and categorization of radioxenon detections.

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