Abstract Submitted
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Measurements of gamma radiation levels and spectra in the San Francisco Bay Area[1] B.T. LO, K.P. BROZEK, C.T. ANGELL, E.B. NORMAN, Univ. of California at Berkeley — Much of the radiation received by an average person is emitted by naturally-occurring radioactive isotopes from the thorium, actinium, and uranium decay series, or potassium. In this study, we have measured gamma radiation levels at various locations in the San Francisco Bay Area and the UC Berkeley campus from spectra taken using an ORTEC NOMAD portable data acquisition system and a large-volume coaxial HPGe detector. We have identified a large number of gamma rays originating from natural sources. The most noticeable isotopes are ^{214}Bi, ^{40}K, and ^{208}Tl. We have observed variations in counting rates by factors of two to five between different locations due to differences in local conditions – such as building, concrete, grass, and soil compositions. In addition, in a number of outdoor locations, we have observed 604-, 662-, and 795-keV gamma rays from ^{134,137}Cs, which we attribute to fallout from the recent Fukushima reactor accident. The implications of these results will be discussed.

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