Concentrations of Radioactive Elements in Lunar Materials

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Abstract - As an aid to interpreting data obtained remotely on the distribution of radioactive elements on the lunar surface, average concentrations of K, U, and Th as well as Al, Fe, and Ti in different types of lunar rocks and soils are tabulated. The U/Th ratio in representative samples of lunar rocks and regolith is constant at 0.27; K/Th ratios are more variable because K and Th are carried by different mineral phases. In nonmare regoliths at the Apollo sites, the main carriers of radioactive elements are mafic (i.e., 6–8% Fe) impact-melt breccias created at the time of basin formation and products derived therefrom.