

DETERMINATION OF Th, U AND K IN SOME NATIONAL COALS[†])

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Natural gamma-spectra of seven lignites and one bituminous coal have been measured in order to determine Th, U and K concentrations. Results are shown in the table ("nominator": weighted averages; "denominator": span of values measured).

Mass (g)	Concentrations (g/g)·10 ⁻⁶		
	Th	U	K
	Lignites		
990	3,64	3,56	3,2·10 ³
920 - 1140	0,4 - 11,7	0,5 - 8,8	2·10 ² - 1,3·10 ⁴
	Bituminous		
1250	7,6 ± 1,1	7,0 ± 0,8	(8,0 ± 0,9)·10 ³

Th/U ratio: $\frac{1,3}{0,2 - 2,3}$ measured, is much smaller than the average value in Earth's crust (~ 3)¹⁾ probably due to lower solubility of Th-compounds in water.

Uranium isotopic ratio has been determined for five specimens. Weighted averages are $\frac{129}{108 - 156}$; one value (not taken in average) of that ratio has been measured as: 70 ± 32 (that means nonequilibrium between ²³⁸U and ²²⁶Ra). These ratios should be compared with mass spectrometric value of: 138.

1. V.M. Gorbačev, Ju.S. Zamjatin, A.A. Lbov: Osnovnie Harakteristiki izotopov tjaželih elementov", Atomizdat, Moskva 1975.

[†]) Complete account of this work will be published elsewhere.