

Использование железо-водных и дерево-железных смесей в защите от ионизирующих излучений

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The use of iron-water and wood-iron mixtures in protection from ionizing radiation

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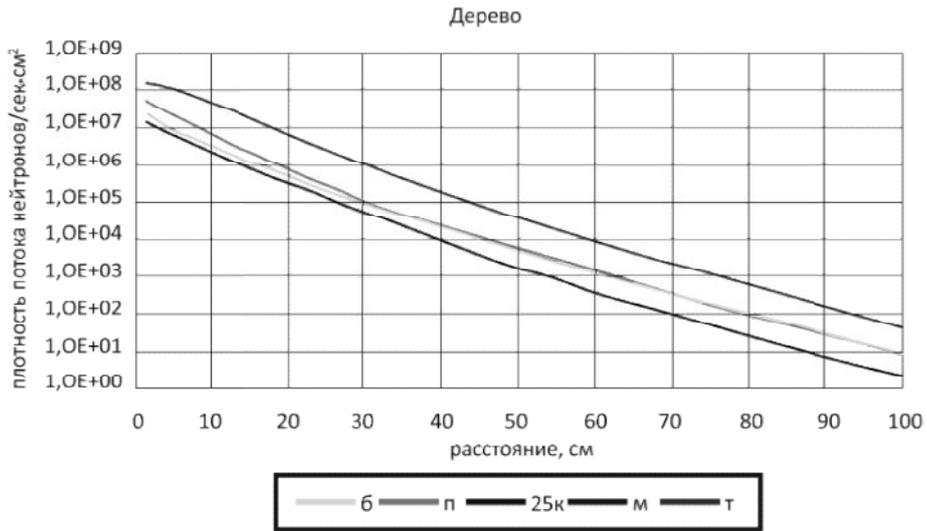
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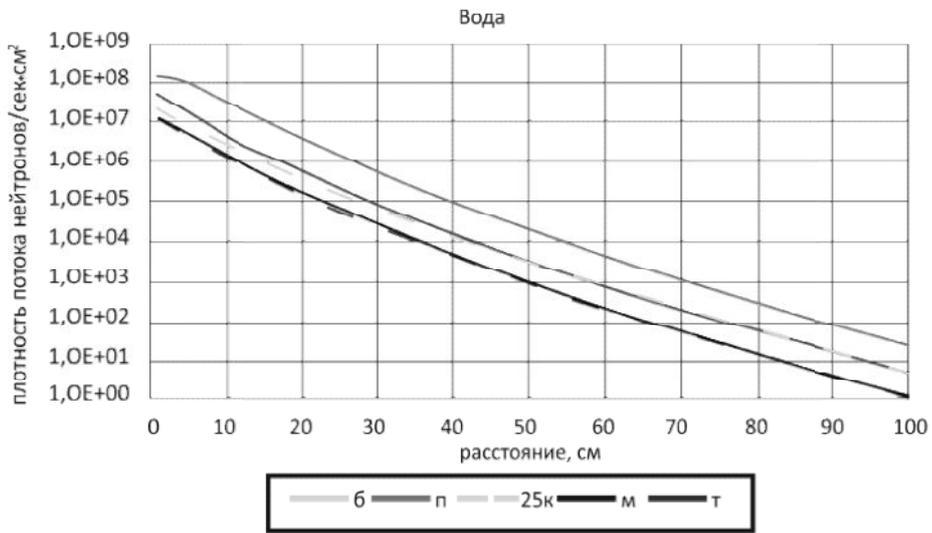
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The article substantiates the possibility of using specially processed wood materials as a means of protection against neutron fluxes. The possibility of using the proposed materials as an element of protection of nuclear reactors is shown. In the nuclear industry, substances with a high hydrogen content used as protection against neutron radiation that affects living tissue. Wood, natural or borated, is a hydrogen-containing material. Moreover, the hydrogen content per unit volume of wood is not less, and sometimes more than in the unit volume of traditional protective materials. Analyzing the literature sources, it can be concluded that wood and wood materials are not only used, but are neither considered nor investigated as neutron-protective ones. The purpose of this study is to estimate the attenuation of neutron fluxes when encountering protection from wood-iron mixtures. Protection from radiation should consist of materials including light and heavy elements. The consequences of accidents at nuclear power plants in Chernobyl and Fukushima indicate the importance of ensuring radiation safety and the need to expand the range of scientific research aimed at finding and creating new neu-



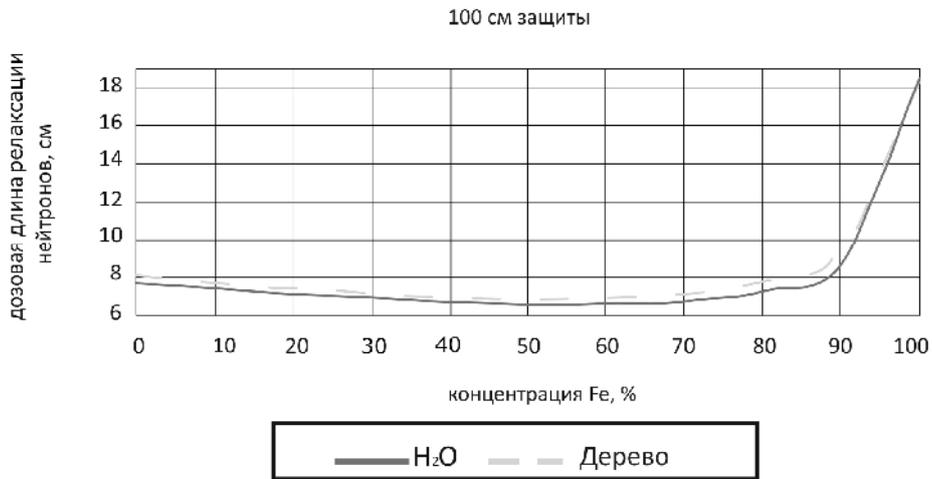
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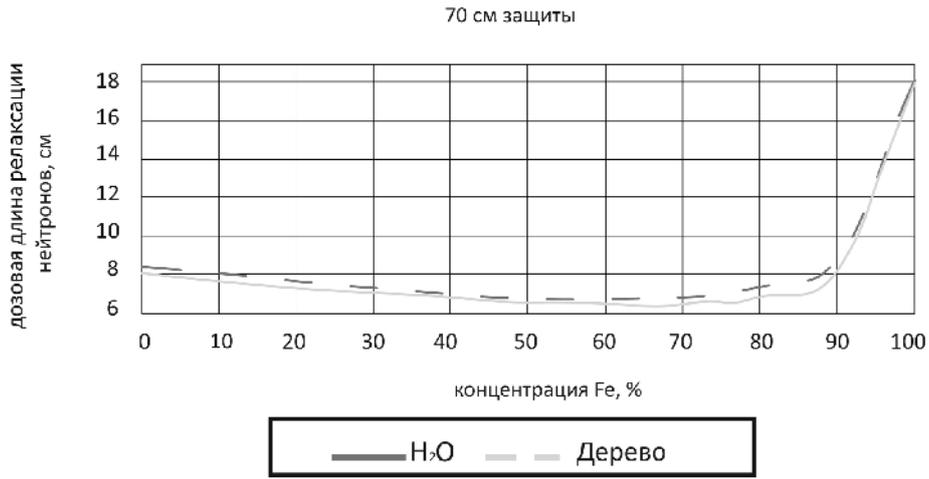
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25	25	14	111 3,35
		18-21	29 1,12
		22	0,414 0

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(1,15 / ³)
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F_e

	$\times 10^{22} / ^3$		$10^{22} / ^3$
H	5,04	H	6,7
C	3,22	O	3,35
N	0,0208	-	-
O	1,58	-	-

(. 2),

	Fe +		Fe +	
	Fe, %		Fe, %	
100	62	6,5	62	6,7
70	59	6,52	55	6,8
50	50	6,59	45	6,94
30	30	6,57	30	7,06

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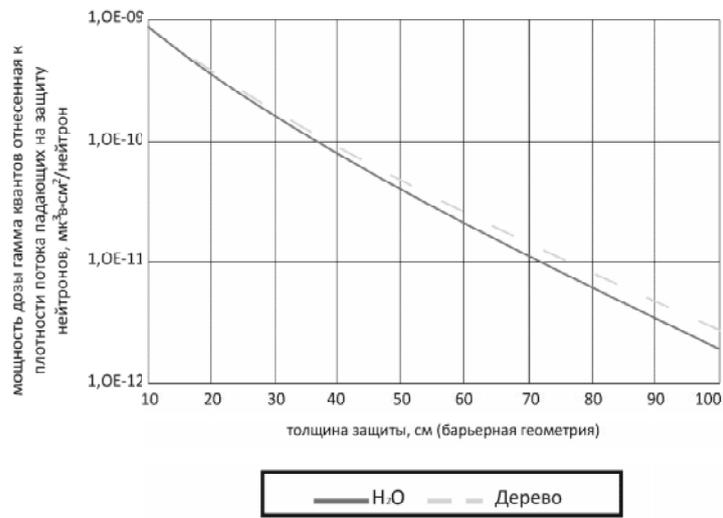
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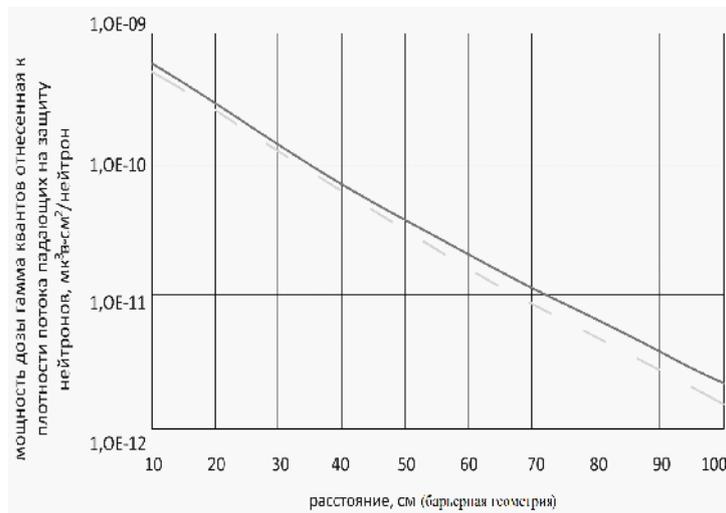
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