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A. Esposito, F. Lucci, S. Merolli, M. Pelliccioni, A. Rindi
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Dose Equivalent Unit

(Received 9 March 1978)

Dear Sir:

THE ICRP in its Recommendations adopted in January 17, 1977 (ICRP77), referring to the unit for the dose equivalent, states that

$$1 \text{ Sv} = 1 \text{ J kg}^{-1} (= 100 \text{ rem}).$$

Is it correct?

We would like to ask for the community of Health Physicists to express their opinion on this definition.

This matter has already been discussed elsewhere (Du74; Li74; Ri74; Ri75), but it does not seem that those discussions have been useful for avoiding the official publication of what we consider a big mistake.

Given the equation that defines the dose equivalent

$$H = DQ,$$

if the above definition of the Sievert is correct, we would like to ask the experts of the ICRP to help us in solving this problem: a person that has absorbed a dose of 1 Gy ($=1 \text{ J kg}^{-1}$) of radiation that has a quality factor of, say, 2 has received a dose equivalent of 2 Sv (1 Gray times a QF of 2) or of 1 Sv (the energy absorbed by the person is 1 J kg^{-1}).

Thank you.

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