PROPOSAL

Own symbol for the mass attenuation coefficient

Leif Gerward: The Bouguer-Lambert-Beer Absorption Law, IRPS Bulletin, v 21, n 1 Mar 2007. He wrote: "modern data tabulations are usually in terms of the mass attenuation coefficient, μ/ρ" (his dry humor?).

Professor Robin P. Gardner is the first writer in the book: Robin P. Gardner and Ralph L. Ely, Jr.: Radioisotope Measurement Applications in Engineering, Reinhold Publ. Corp. 1967. There you find the equation

$$I(x) = I(0)e^{-\mu x} \qquad\qquad (3.58)$$

for the intensity, where $x = \rho d$, i.e., density times the thickness of the absorbing (or scattering) layer. Their μ is mass attenuation coefficient.

In microcosmos we have the symbol σ for the cross section. In macrocosmos then we should have the counterpart; it is the mass attenuation coefficient. In (3.58) we have its symbol. (For neutrons in the macrocosmos we have the macroscopic cross section with the symbol Σ).

In practice we can elegantly write

$$I = I_0 \exp(-\mu\rho d)$$

for the attenuation of the beam in the layer with the thickness d.

For the so-called "linear" attenuation coefficient we have now: $\mu\rho$. Somebody, maybe, wants an own symbol for the linear attenuation coefficient.
http://www.elisanet.fi/skasi/Attenuation.pdf offers symbols λ and c.

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