Abstracts

Electromagnetic units and equations

L. Young. "Electromagnetic units and equations." 2002 Transactions on Microwave Theory and Techniques 50.3 (Mar. 2002 [T-MTT] (50th Anniversary Issue)): 1021-1027.

Different systems of units are often used in electrical engineering and in physics, causing difficulties when the need arises to convert from one system of units to another. This can be a problem in certain areas of electromagnetism, as in microwave engineering when dealing with magnetic materials and devices, or with electromagnetic-wave propagation. It arises, for example, when converting between units or equations of the (rationalized, unsymmetrical) meter, kilogram, second, and ampere system and the (nonrationalized symmetrical) Gaussian system often used in physics. This paper solves the problem by means of Gedanken ("in-the-mind") experiments. You are invited to join "Alice in Wonderland," where anything is possible and every experiment has a happy outcome.

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