
On the systemic and physical division of electromagnetic quantities traditionally attributable to the field quantities group

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The study tested systemic, dimensional and physical difference between the field and base (real-material) electromagnetic quantities, which include magnetic field strength and electric induction, usually attributed to the field quantities group. These quantities are not only wrongly considered to the field ones, but are often considered fictitious and not having a deep physical meaning. In contrast to this viewpoint, we justified a different status and the physical meaning of such values as magnetization and polarization of free space (physical vacuum). On the basis of new concepts we discussed in detail the effect of local enhancement of external and internal electric field near the surface of dielectric bodies. This effect can be used and has, probably, been already used in practice in dielectric antennas and waveguides.

Keywords: *electromagnetism, magnetization, polarization, magnetic field, electric field, physical vacuum.*

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