

LATEX GYRE TERMES MATH HEAVY 2016?

1. Equivalence of the integral ($\oiint_{\partial S} \mathbf{E} \cdot d\mathbf{S} = 0$) and differential ($\nabla \cdot \mathbf{E} = 0$) formulas

In this section, we shall prove that the integral and differential forms of Maxwell's equation known as “Gauss's law for magnetism”, i.e.:

$$\oiint_{\partial S} \mathbf{E} \cdot d\mathbf{S} = 0 \quad (1)$$

and

$$\nabla \cdot \mathbf{E} = 0 \quad (2)$$

are equivalent.