

On electrodynamics

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[4]

After one and a half centuries, we still know little more than nothing about the *geometria situs*, whose existence LEIBNITZ suspected, and only a pair of geometers (EULER and VANDERMONDE) granted a brief glance at.

A main problem at the *interface* between *geometria situs* and *geometria magnitudinus* is that of counting the number of times two closed or infinite lines link each other.

Let the coordinates of an undetermined point of the first line be x, y, z , while those on the second one are x', y', z' . Let:

$$\iint \frac{(x' - x)(dy dz' - dz dy') + (y' - y)(dz dx' - dx dz') + (z' - z)(dx dy' - dy dx')}{[(x' - x)^2 + (y' - y)^2 + (z' - z)^2]^{3/2}} = V.$$

When that integral is extended over both lines, it will equal

$$4\pi m,$$

and m will be the linking number.

The value is reciprocal, i.e., it will remain the same when both lines are switched with each other.

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