

To the Editorial office of The Physics Teacher,

Thank you for forwarding the reviewer's comments and suggestions regarding to manuscript number 461114, "Rephrasing Faraday's Law." In short, I see the merit of each of the reviewer's recommendations, and have improved the manuscript by acting upon them. I am submitting a revised version.

As most of the reviewer's recommendations were quite explicit, such as 'replace this word with that word,' it suffices to say that I have done exactly as suggested. That is, I have replaced "misrepresent" with "misrepresenting," "couluombic" with "coulombic," and "curled electric field" with "circulating electric field." I have also inserted "expressions containing" after "integrating."

The reviewer pointed out ways in which the sentence introducing Equation 1 were either inaccurate or easily misinterpreted. I've completely replaced it with two new sentences. I've also dropped the symbol Φ_B (for magnetic flux), as it is never again used in the paper; this removes an unclear statement that the reviewer noted could trip up readers.

Old version:

Here, $\Phi_B = \int \vec{B} \cdot d\vec{A}$ and is the magnetic flux, with \vec{B} being the magnetic field and \vec{A} the area it pierces; \vec{E} is the electric field, and \vec{s} is the path encircling \vec{A} and over which \vec{E} is evaluated.

New version:

Here, \vec{E} and \vec{B} are the electric and magnetic fields, $d\vec{s}$ is a differential step along a path, and $d\vec{A}$ is a differential patch of area. In Equation 1, the path around which the electric field is evaluated bounds the area across which the magnetic field is evaluated; the integral on the right hand side defines the magnetic flux.

I believe that this conveys the relevant information without confusing a path with its local tangent vector (addressing what the reviewer dubbed "claim 1"), a surface with its area (addressing "claim 2"), or allowing a poorly placed prepositional phrase to lead the audience to read that the electric field is evaluated over an area (incorrect) rather than being evaluated along the encircling path (correct) (addressing "clam 3".)

With these modifications, I hope that the manuscript is suitable for publication.

Please convey my appreciation to the reviewer for his/her careful read and considered suggestions.

Eric Hill