Abstract Submitted
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**An interactive, dynamic, visual tool for div, curl, and Stokes'** MATTHIAS KAWSKI, Arizona State University — We demonstrate a free JAVA tool that promotes inquiry based learning. Students experiment and discover divergence, curl, and (the planar form of) Stokes' theorem. 15 years experience with this tool confirm that this visual language much helps integrate vector calculus, differential equations, complex analysis, and physics (both mechanics and electromagnetics), whereas the traditional different algebraic symbolism forms barriers between these different of view. Highlights are the role of vector precalculus, the dark side of the moon (harmonic oscillator) in contrast with irrotational, and geometric (coordinate independent) definitions of curl, curl, and grad) in a dynamic graphical context. https://math.la.asu.edu/ kawski/vfa2/vfa2sample.html

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