Abstract Submitted
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Visualizing Equations in Physics with 3D Plastic Surfaces[1] JONATHAN W. ALFSON, PAUL J. EMIGH, Oregon State University, AARON WANGBERG, Winona State University , ROBYN WANGBERG, St. Mary's University of Minnesota, ELIZABETH GIRE, Oregon State University, RAISING PHYSICS TO THE SURFACE COLLABORATION — Many physics students have difficulty visualizing and representing multivariable functions. While useful representations of these functions exist, there is a demand for additional tools and activities to help students make connections between variables and understand the relationships among those variables. The Raising Physics to the Surface project is developing 3D plastic models (surfaces) of functions found in physical systems, including mechanics, thermodynamics, and electrostatics. We discuss how the surfaces can be used in classroom activities and what benefits or disadvantages are provided by the inclusion of surfaces during instruction.

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