

Abstract Submitted  
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**3-D Visualization of an electron and its field in a high-intensity laser focus** JACOB BARKER, Brigham Young University — We describe the methods used to create a visualization of an electron and its field as it reacts to a laser pulse. We use the Singh model of a laser focus to determine the trajectory of an electron. From this trajectory we are able to determine the electromagnetic field radiated from the electron by using the Liénart-Wiechert potentials. We are using a virtual camera that was developed previously. We determine the color and intensity of a certain pixel by integrating along a line of sight. In order to improve perspective we added gridlines in three dimensions. We also discuss various methods used in order to improve run time. We conclude by analyzing the animation produced.

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