

Abstract Submitted  
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**Multiphoton Assisted Recombination: Beyond the Simpleman's Model**<sup>1</sup> EDWARD SHUMAN, TOM GALLAGHER, BOB JONES, University of Virginia — We have observed multiphoton assisted recombination in the presence of a 38.8 GHz microwave field. Stimulated emission of up to ten microwave photons results in energy transfer from continuum electrons, enabling recombination. The maximum electron energy loss is far greater than the  $2 U_p$  predicted by the standard “simpleman’s” model. The data are well reproduced by both an approximate analytic expression and numerical simulations in which the combined Coulomb and radiation fields are taken into account.

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