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Progress Report on Femtosecond Electron Switch using a Plasmonic Antenna JESSICA WHITE, SHAWN HILBERT, Texas Lutheran University, HERMAN BATELAAN, University of Nebraska–Lincoln — In this talk we discuss progress that has been made toward a femtosecond electron switch. The system uses a pump-probe approach. We use one pulse to induce electrons from a field emission tip and a second to activate a plasmonic antenna to make an intense electric field. Descriptions of the system's components will be presented. This system could produce switching in the 20 femtosecond range. Such switching would provide better temporal resolution for movies of molecular motion, and provide the resolution required to observe the freefall of elementary particles.

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