Notre Dame Science
Department of Physics

ATTOSECONDS, FASTER THAN A NEW YORK MINUTE

Colloquium

Prof. Lou DiMauro
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Wednesday, September 28, 2011
4:00 P.M. NSH 118

(Refreshments at 3:30 P.M. NSH 202)

The genesis of light pulses with attosecond (10^{-18} seconds) durations signifies a new frontier in time-resolved physics. The scientific importance is obvious: the time-scale necessary for probing the motion of an electron(s) in the ground state is attoseconds (atomic unit of time ≡ 24 *as*). The availability of attosecond pulses would allow, for the first time, the study of the time-dependent dynamics of correlated electron systems by freezing the electronic motion, in essence exploring the structure with ultra-fast snapshots, then following the subsequent evolution using pump-probe techniques. This talk will examine the fundamental principles, recent advances and challenges from these sources.

All interested persons are cordially invited to attend.