Abstract Submitted
for the DAMOP08 Meeting of
The American Physical Society

Controlling electron-ion-recollision dynamics with attosecond precision.[1] FRANÇOIS LÉGARÉ, INRS-EMT — When an atom/molecule is ionized by an intense linearly polarized multi-cycle laser pulse, an electron wave packet is launched in the continuum at each half optical cycle and returns to the ion core through a train of attosecond electron bunches [1]. In this talk, the possibility of controlling the relative proportion between the different electron bunches is demonstrated. This is highly promising for disentangling the contribution of the different electron bunches on the electron-ion-recollision dynamics and for probing ultra-fast molecular dynamics. [1] H. Niikura, F. Légaré, R. Hasbani, A.D. Bandrauk, Misha Yu Ivanov, D.M. Villeneuve and P.B. Corkum (2002), Sub-laser-cycle electron pulses for probing molecular dynamics, Nature **417**, 917-922.

[1]Dr. François Légaré acknowledges the financial support from INRS-EMT and the Canada's Natural Science and Engineering Research Council.

François Légaré
INRS-EMT

Date submitted: 04 Feb 2008 Electronic form version 1.4