Large voltage from spin pumping in magnetic tunnel junctions
ZHIFANG LIN, Fudan University, SIU TAT CHUI, University of Delaware — We studied the response of a ferromagnet-insulator-normal metal tunnel structure under an external oscillating radio frequency (R.F.) magnetic field. The D. C. voltage across the junction is calculated and is found not to decrease despite the high resistance of the junction; instead, it is of the order of $\mu V$ to 100\,$\mu V$, much larger than the experimentally observed value (100 nano-V) in the “strong coupled” ohmic ferromagnet-normal metal bilayers. This is consistent with recent experimental results in tunnel structures, where the voltage is larger than \( \mu V \).