Abstract Submitted for the MAR14 Meeting of The American Physical Society

Dynamic Magnetoelectric Effect in Ferromagnet—Superconductor Tunnel Junctions MIRCEA TRIF, YAROSLAV TSERKOVNYAK, Univ of California - Los Angeles — We study the magnetization dynamics in a ferromagnet|insulator|superconductor tunnel junction and the associated buildup of the electrical polarization. We show that for an open circuit, the induced voltage varies strongly and nonmonotonically with the precessional frequency, and can be enhanced significantly by the superconducting correlations. For frequencies much smaller or much larger than the superconducting gap, the voltage drops to zero, while when these two energy scales are comparable, the voltage is peaked at a value determined by the driving frequency. We comment on the potential utilization of the effect for the low-temperature spatially-resolved spectroscopy of magnetic dynamics.

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Date submitted: 15 Nov 2013

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