Abstract Submitted
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**Inverse spin galvanic effect in topological-insulator based heterostructures**[1] MARTIN RODRIGUEZ-VEGA, Department of Physics, College of William and Mary, Williamsburg, VA 23187, USA, GEORG SCHWIETE, JAIRO SINOVA, Institut für Physik, Johannes Gutenberg Universität Mainz, Mainz, Germany, ENRICO ROSSI, Department of Physics, College of William and Mary, Williamsburg, VA 23187, USA — We study the inverse spin galvanic effect in heterostructures formed by a layer of a three dimensional strong topological insulator (TI) and a magnetic material. We consider different configurations for the heterostructure and for the contacts. We carefully treat the effect on the TI bands of the proximity of a magnetic material and take into account both intra-band and inter-band contributions to the current-induced spin polarization of the TI surface states. Finally, we discuss the relevance of our results for recent experiments.

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Martin Rodriguez-Vega
The College of William & Mary

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