

Abstract Submitted  
for the MAR12 Meeting of  
The American Physical Society

**Spin dependent thermoelectric effect in magnetic tunnel junctions** LAURENT CHAPUT, Institut Jean Lamour, WEIWEI LIN, universite paris sud, MICHEL HEHN, Institut Jean Lamour, BEATRICE NEGULESCU, CNRS-CEA, STEPHANE ANDRIEU, FRANCOIS MONTAIGNE, STEPHANE MANGIN, Institut Jean Lamour — Thermoelectric effects in magnetic nanostructures and the so-called spin caloritronics are attracting much interests . Indeed it provides a new way to control and manipulate spin currents which are key elements of spin-based electronics. Here we report on the magneto thermoelectric effect in a magnetic tunnel junction. The thermovoltage in this geometry can reach 1 mV. Moreover a magneto-thermovoltage effect could be measured with ratio similar to the tunnel magnetoresistance ratio. The Seebeck coefficient can then be tuned by changing the relative magnetization orientation of the two magnetic layers in the tunnel junction. Therefore our experiments extend the range of spintronic devices application to thermoelectricity and provide a crucial piece of information for understanding the physics of thermal spin transport.

Laurent Chaput  
Institut Jean Lamour

Date submitted: 16 Dec 2011

Electronic form version 1.4