

Abstract Submitted  
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**Thermal-magnetic-electric oscillator based on spin-valve effect**

HEE CHUL PARK, Korea Institute for Advanced Study, Seoul, Korea, ANATOLY M. KADIGROBOV, Theoretische Physik III, Ruhr-Universitat Bochum, Germany, S. ANDERSSON, Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden, DANKO RADIC, Department of Physics, Faculty of Science, University of Zagreb, Zagreb, Croatia, ROBERT I. SHEKHTER, MAT JONSON, Department of Physics, University of Gothenburg, Goteborg, Sweden, V. KORENIVSKI, Nanostructure Physics, Royal Institute of Technology, Stockholm, Sweden — A thermal-magnetic-electric valve with the free layer of exchange-spring type and inverse magnetoresistance is investigated. The structure has S-shaped current-voltage characteristics and can exhibit spontaneous oscillations when integrated with a conventional capacitor within a resonator circuit. The frequency of the oscillations can be controlled from essentially dc to the GHz range by the circuit capacitance.

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