121. Title: Spin-injection terahertz radiation in magnetic junctions

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Abstract: Electromagnetic radiation of 1-10 THz range is observed at room temperature in a structure with a point contact between a ferromagnetic rod and a thin ferromagnetic film under electric current of high enough density. The radiation is due to nonequilibrium spin injection between the components of the structure. By estimates, the injection can lead to inverted population of the spin subbands. The radiation power exceeds by orders of magnitude the thermal background (with the Joule heating taken into account) and follows the current without inertia.