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## Spin caloritronics in graphene with Mn

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Alberto Torres<sup>1, a)</sup>, Matheus P. Lima<sup>1, b)</sup>, A. Fazzio<sup>1, c)</sup>, and Antônio J. R. da Silva<sup>1,2, d)</sup>

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## ABSTRACT

We show that graphene with Mn adatoms trapped at single vacancies features spin-dependent Seebeck effect, thus enabling the use of this material for spin caloritronics. A gate potential can be used to tune its thermoelectric properties in a way it presents either a total spin polarized current, flowing in one given direction, or currents for both spins flowing in opposite directions without net charge transport. Moreover, we show that the thermal magnetoresistance can be tuned between -100% and +100% by varying a gate potential.

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