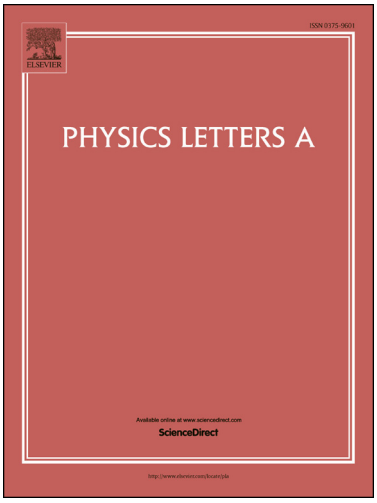
# Accepted Manuscript




The current-induced heat generation in a spin-flip quantum dot sandwiched between a ferromagnetic and a superconducting electrode

Feng Jiang, Yonghong Yan, Shikuan Wang, Yijing Yan

PII: S0375-9601(17)30951-9
DOI: https://doi.org/10.1016/j.physleta.2017.10.006
Reference: PLA 24768

To appear in: *Physics Letters A*

Received date: 5 August 2017
Revised date: 28 September 2017
Accepted date: 3 October 2017

Please cite this article in press as: F. Jiang et al., The current-induced heat generation in a spin-flip quantum dot sandwiched between a ferromagnetic and a superconducting electrode, *Phys. Lett. A* (2017), https://doi.org/10.1016/j.physleta.2017.10.006

## Highlights

- The expression of heat generation based on extended Nambu's representation is derived.
- Spin-polarization is in favor of increasing spin current and decreasing heat generation.
- The spin-flip process can have a great effect on the heat generation.
- For finite temperature, an optimal workspace of F-QD-S systems can be found.