

Spectrum of dark matter axions from strings

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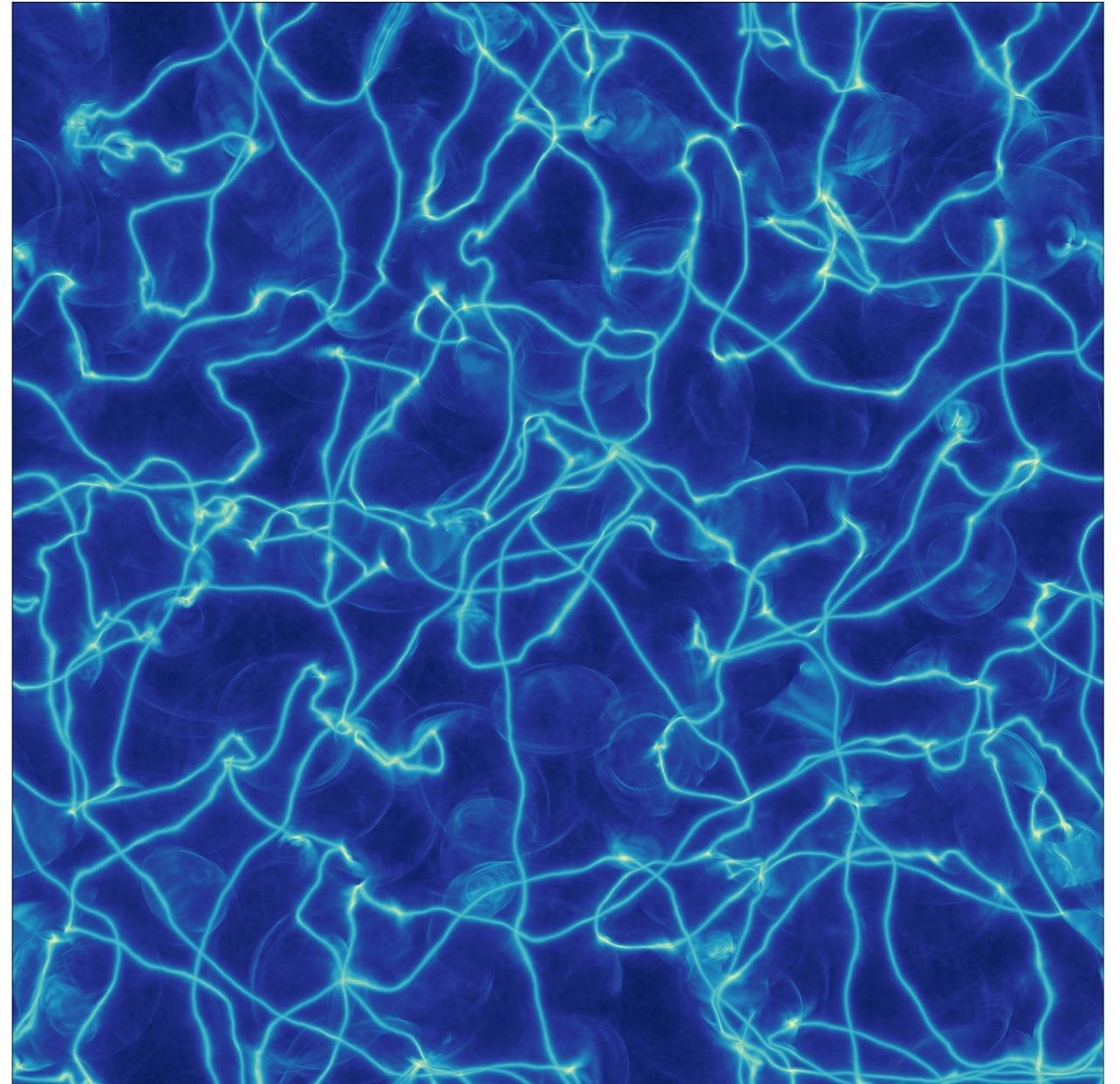
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Axion dark matter from stings

- Axions can be produced by strings if the Peccei-Quinn symmetry is broken after inflation.
- Understanding the dynamics of strings is indispensable for a sharp prediction for "typical" axion dark matter mass.
- Controversy on the interpretation of simulation results.



Jaxions code

Redondo, KS, Vaquero, <https://github.com/veintemillas/jaxions>

Analysis of the axion emission spectrum

- Large scale simulations up to 11264^3 lattice sites.
- Refining the calculation of the axion emission spectrum.
- Study of several systematic effects that can bias the result.
 - Axion field oscillations
 - Discretization effects
- Discussion on the implication for the axion DM mass prediction.

