

# Abstract for GR-TR Conference on Statistical Mechanics and Dynamical Systems

Topic: Other

Preference: Oral

## Discrete Breathers in 2d SRR systems

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We consider SRR (split ring resonators) arrays positioned in the 2D plane, with axial or planar geometry. Using these topologies we construct Discrete Breathers of various types such as Hamiltonian, dissipative, single site and multibreathers as well as surface DB modes, located in the corner or in the edges of the lattice. We show that the presence of these modes induce negative magnetic response in the system.

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- [1] N. Lazarides, M. Eleftheriou, and G. P. Tsironis, *Phys. Rev. Lett.* **97**, 157406 (2006).
  - [2] M. Eleftheriou, N. Lazarides and G. P. Tsironis, *Phys. Rev. E* **77**, 036608 (2008).
  - [3] N. Lazarides, G. P. Tsironis, Y. Kivshar, *Phys. Rev. E* **77**, 065601 (2008).