

Abstract Submitted  
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**Numerical identification of three distinct phases in a  $(2 + 1)D$  array of quantum dissipative Josephson junctions** EINAR STIANSEN, IVER BAKKEN SPERSTAD, ASLE SUDBØ, Department of Physics, Norwegian University of Science and Technology, N-7491 Trondheim, Norway — We have performed large-scale Monte-Carlo simulations on a model describing a  $(2 + 1)D$  array of quantum dissipative Josephson junctions. With the superconducting phases as our fundamental degrees of freedom we are able to identify three distinct phases as function of Josephson coupling and dissipation strength. Apart from the fully superconducting state, where fluctuations in both space and time are at bay, and the normal phase, characterized by wild fluctuations, we find an additional phase featuring spatial phase coherence coinciding with temporal disorder.

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