

# **$k$ -CONTACT FORMALISM: A FRAMEWORK FOR FIELD THEORIES WITH DISSIPATION**

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Abstract:”We present new geometric framework for Hamiltonian field theories with dissipation. We define the notions of  $k$ -contact structure and  $k$ -contact Hamiltonian system. This is a generalization of both the contact Hamiltonian systems in mechanics and the  $k$ -symplectic Hamiltonian systems in field theory. Two relevant examples are analyzed in detail: the damped vibrating string and Burgers’ equation.”