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Flux Soliton Interactions in Coupled Long Josephson Junctions WALTRAUT WUSTMANN, KEVIN D. OSBORN, Laboratory for Physical Sciences, College Park, MD — Flux solitons and long Josephson junctions are being studied as structures for energy-conserving reversible computing. The solitons in long Josephson junctions are generally described by the Sine-Gordon equation. Simulations have been performed on discrete long Josephson junctions (DLJJs), where the soliton extends over at least a few unit cells. We will report on the dissipation and mutual interaction from two solitons in separate DLJJs. Single fluxon dissipation in DLJJs is found to arise from junction damping as well as radiation loss created by discreteness and perturbed soliton oscillations. Dissipation of interacting solitons in coupled DLJJs will be compared to the single fluxon case.

Waltraut Wustmann Laboratory for Physical Sciences, College Park, MD

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