PhD Studentship in theoretical studies of classical and quantum Josephson junction systems

We are looking for a strong candidate for a **PhD position** to work on **properties of excitations in systems of interacting classical and quantum Josephson junctions**. This position is part of a joint project with the experimental group of A. Ustinov (University Erlangen-Nürnberg) and is funded by the *Deutsche Forschungsgemeinschaft (German Science Foundation)*. The theoretical work is embedded in the broad field of **localized excitations in nonlinear spatially discrete systems** (discrete breathers, intrinsic localized modes, discrete solitons) and the **theory of superconductivity** (cf. PHYSICS TODAY JANUARY 2004 PP.43-49). Research topics include the **scattering of plasmon waves by discrete breather excitations, the study of Fano resonances, the tunnelling of quantum discrete breather excitations, and the interaction of localized excitations with microwave radiation**. Experience in these fields is helpful, but not mandatory. Related research in Dresden is focussing on the following fields: *localization of light in coupled nonlinear optical waveguides, general mathematical theories of properties of classical and quantum discrete breather excitations, transport properties of driven systems, transport properties of quantum dots.*

We offer a pleasant working environment with permanent interaction with several collaborating research groups world wide, as well as an optimally equipped work place in a modern institution with an international flair. For more information consult the home page of the institute (www.mpipks-dresden.mpg.de).

Please address your application (CV, certificates/degree records, brief description of previous work/experience, two confidential letters of reference to be sent directly) and/or informal questions to

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Screening of applications will begin immediately and will continue until an appointment has been made.