Out of equilibrium dynamics of the disordered two dimensional Bose Hubbard model in the strong coupling regime[1] MATTHEW FITZPATRICK, MALCOLM KENNETT, ALI MOKHTARI-JAZI, Simon Fraser University — We develop a strong-coupling approach for calculating spatio-temporal correlations in the disordered Bose-Hubbard model. We derive equations of motion for the disorder-averaged single-particle Green's function, allowing us to study the relaxation dynamics from highly out of equilibrium initial conditions. We discuss how our formalism can be applied to the study of slow dynamics observed in recent experiments using cold atoms to simulate the two dimensional Bose Hubbard model.

Malcolm Kennett
Simon Fraser University

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