

Abstract Submitted
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Excitons in QED₃ and spin response in a phase-fluctuating *d*-wave superconductor¹ BABAK SERADJEH², University of British Columbia, IGOR HERBUT, Simon Fraser University — We study the particle-hole exciton mode in the QED₃ theory of a phase-fluctuating *d*-wave superconductor in ladder approximation. We derive a Schrödinger-like equation for the exciton bound state and determine the conditions for its existence. We find the dispersion of this mode below the particle-hole continuum and compare our results with the resonance observed in neutron scattering measurements in cuprates. See <http://www.physics.ubc.ca/~babak/march07/> for a list of references on this work.

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²For references, see <http://www.physics.ubc.ca/~babak/march07/>

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