

Abstract Submitted
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Two-Electron Linear Intersubband Absorption in a Biased Quantum Well JIAN DAI, MIKHAIL RAIKH, University of Utah, TIGRAN SHAHBAZYAN, Jackson State University — Linear light absorption of 2D electrons confined within a biased quantum well is studied theoretically. We demonstrate that, for light polarization perpendicular to the 2D plane, in addition to conventional absorption peak at frequency $\hbar\omega \approx \Delta$, where Δ is the intersubband energy distance, there exists a peak around a *double* frequency $\hbar\omega \approx 2\Delta$. This additional peak is entirely due to electron-electron interactions, and corresponds to excitation of *two* electrons by *one* photon. The magnitude of two-electron absorption is proportional to U^2 , where U is the applied bias.

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