

## Bulletin of the American Physical Society

### APS March Meeting 2018

Monday–Friday, March 5–9, 2018; Los Angeles, California

#### Session R18: Quantum Dots and Artificial Molecules: Electronic properties

8:00 AM–11:00 AM, Thursday, March 8, 2018

LACC Room: 306B

Sponsoring Units: DCMP DMP

Chair: Anthony Sigillito, Princeton Univ

#### **Abstract: R18.00003 : Orbital effects of an in-plane field in a 2DEG quantum dot\***

8:24 AM–8:36 AM

← Abstract →

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We report on the orbital effects of an in-plane magnetic field on the spectrum of a quantum dot based on two dimensional electron gas (2DEG). We present an effective two dimensional Hamiltonian where these effects enter in proportion to the flux penetrating the 2DEG. We show how the orbital effects allow to extract a wealth of information, e.g., on the heterostructure interface, the quantum dot size and orientation, or the spin-orbit fields. We present experimental data illustrating this new spectroscopic method for quantum dots.

\*PS acknowledges the support of JSPS Kakenhi Grant No. 16K05411.