

Abstract Submitted
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Exciton complexes in self-assembled quantum dots: Magnetic field direction dependence¹ VLADAN MLINAR, FRANCOIS PEETERS, Department of Physics, University of Antwerp — Energy levels of up to four excitons in unstrained GaAs/AlGaAs and strained InAs/GaAs quantum dots (QD) are studied in the presence of an external magnetic field. Influence of the direction of the applied magnetic field on the exciton fine structure is shown, as well as the way to control the fine structure splitting. The single particle states are extracted from the nonsymmetrized eight-band k.p model including strain, piezoelectricity and Zeeman effect, whereas the employed discretization scheme preserves the gauge invariance. The singles and doubles configuration interaction method is used for extracting the few-particle states.

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