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Binding energies of indirect excitons in double quantum well systems ALEX ROSSOKHATY, Russian Academy of Sciences, Chernogolovka, STEFAN SCHMULT, WERNER DIETSCHKE, KLAUS VON KLITZING, Max-Planck-Institute for Solid State Research, Stuttgart, IGOR KUKUSHKIN, Russian Academy of Sciences, Chernogolovka — A prerequisite towards Bose-Einstein condensation is a cold and dense system of bosons. Indirect excitons in double GaAs/AlGaAs quantum wells (DQWs) are believed to be suitable candidates. Indirect excitons are formed in asymmetric DQW structures by mass filtering, a method which does not require external electric fields. The exciton density and the electron-hole balance can be tuned optically. Binding energies are measured by a resonant microwave absorption technique. Our results show that screening of the indirect excitons becomes already relevant at densities as low as $5 \times 10^9 \text{ cm}^{-2}$ and results in their destruction.

Stefan Schmult
Max-Planck-Institute for Solid State Research, Stuttgart

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