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Bose Einstein Condensation in Trapped Polaritons Versus Lasing Effects RYAN BALILI, BRYAN NELSEN, DAVID SNOKE, University of Pittsburgh, LOREN PFIEFFER, KENNETH WEST, Bell Labs, Lucent Technologies, UNIVERSITY OF PITTSBURGH TEAM, BELL LABS, LUCENT TECHNOLOGIES COLLABORATION — Evidence for Bose Einstein condensation (BEC) of exciton-polaritons have been presented recently by several groups in a variety semiconductor microcavity geometries (eg. [1). Objections nevertheless remain as experimental evidence for polariton BEC bear striking similarity to observed behavior in a regular photon laser or microcavity in weak coupling regime [2]. Latest results however show that a both BEC and lasing transitions can occur and are distinguishable in the stress trapped case [3].

[1] Balili, R., Hartwell, V., Snoke, D., Pfeiffer L., and West, K. Science 316, 1007 (2007).
[2] Bajoni, D., Senellart, P, Lemaitre, A., and Bloch, J. Phys. Rev. B. 76, 201305(R) (2007).
[3] Balili, R., Nelsen, B., Snoke, D., Pfeiffer L., and West, K. arXiv:0808.1861v2 [cond-mat.other](2008).

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