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Entangling two coherent light beams through stimulated emission JIEHUI HUANG, MARLAN SCULLY, Institute for Quantum Science and Engineering, Texas AM University 4242 TAMU College Station, Texas 77843-4242 — Stimulated emission plays the central role in generating laser, and it can also be used to entangle two coherent light beams in a two-level atomic ensemble. When the pumping rate of the atomic system is smaller than its decay rate, the atomic ensemble can be consider as a device of photon subtraction. On the other hand, if the pumping rate of the atomic system is substantially lager than the decay rate, the atomic ensemble plays the role of photon addition, which can be used to entangle two coherent light beams. This is a novel way to generate bright entangled lights, even without using any nonlinear material.

Jiehui Huang
Institute for Quantum Science and Engineering, Texas A
M University 4242 TAMU College Station, Texas 77843-4242

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