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**Quantum lithography beyond the diffraction limit via Rabi oscillations** ZEYANG LIAO, Texas A&M University, MUHAMMAD AL-AMRI, MUHAMMAD SUHAIL ZUBAIRY — We propose a quantum optical method to do the sub-wavelength lithography. Our method is similar to the traditional lithography but adding a critical step before dissociating the chemical bound of the photoresist. The subwavelength pattern is achieved by inducing the multi-Rabi-oscillation between the two atomic levels. The proposed method does not require multiphoton absorption and the entanglement of photons. It is expected to be realizable using current technology.

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