

## Site-controlled quantum dots and engineering of quantum dot states

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There are several requirements for practical applications of quantum dots (QDs) in quantum information processing. Among them are site-control, emission uniformity, spectral purity, high QD symmetry, high photon conversion/extraction efficiency, and many specific others. An emerging one, which adds to previous ones, is quantum state engineerability, meaning that the quantum state (excitonic) properties can, at least to some level, be designed as required.

Herein we would like to navigate through recent achievements of site-controlled (In)GaAs QDs in (Al)GaAs barriers grown by MOVPE in inverted pyramidal recesses. The system is known for its wavelength uniformity, spectral purity, entangled-photon emission quality and potential for practical applications [see e.g. Chung et al. *Nature Photonics* 10, 782 (2016)].