

Observation of two-dimensional superlattice solitons

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We observe experimentally two-dimensional solitons in superlattices comprising alternating deep and shallow waveguides fabricated via the femtosecond laser direct writing technique. We find that the symmetry of linear diffraction patterns as well as soliton shapes and threshold powers largely differ for excitations centered on deep and shallow sites. Thus, bulk and surface solitons centered on deep waveguides require much lower powers than their counterparts on shallow sites.

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