



(a) Microscope image of laser-written array with excited waveguide marked by circle. (b-d) Output intensity distributions for progressively increasing input power levels. Observation of surface soliton (middle row) and surface gap soliton (bottom row) in optically induced photorefractive lattice. (e),(i) Lattice patterns with the waveguide excited by the probe beam marked by a cross. (f),(j) Surface soliton intensity patterns. (g),(k) Interference pattern between the soliton beam and a tilted plane wave. (h) 3D intensity plots of an in-phase surface soliton and (l) the corresponding pattern when its intensity is reduced significantly under the same bias condition. In all plots, dashed lines mark the interface.