FORMATION OF DARK DISSIPATIVE SOLITONS IN MEDIA WITH NONLOCAL RESPONSE

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S u m m a r y

For the problem of two-wave self-diffraction in a nonlocal nonlinear medium considered in the reflection geometry, the steady state solutions in terms of the tanh function have been found for the distribution of dynamical grating amplitudes and for the distribution of intensity maxima in the interference pattern. The solutions for the mixed-wave intensities turned out to depend on the area under the curve describing the grating-amplitude distribution function. The distribution in the form of the tanh function shifts along the direction of wave propagation, when the ratio of the intensities for the input waves changes. The dynamical problem is solved numerically for the case of two interacting Gaussian beams. It has been demonstrated that the shape of output beams can be controlled by varying the time delay between the input pulses, hence creating various dissipative solitons, including grating-amplitude distributions, in the medium bulk.