

Novel features of nonlinear guided waves in saturable thin-film waveguides are obtained. It is shown that the presence of saturation can strongly modify the behavior of TE waves in comparison to films having a Kerr-like nonlinearity. The fundamental mode index is seen to become bounded by limits determined by the saturation level. The example of symmetric waveguide is analyzed and the dispersion plots of symmetric and asymmetric solutions are obtained. It is shown that only the symmetric solution can be followed at high film interface intensity and that the asymmetric solution becomes absent at low saturation levels.