

Nonlinear guided wave behavior in the symmetric and asymmetric versions of an optical waveguide is studied. The waveguides are made to cut off at low field intensities by a step-index decrement in the dielectric constant of the film relative to those of the bounding media. The influence of this decrement on solutions of the  $TE_0$  mode is calculated. The mode index variation of the asymmetric solution in the symmetric waveguide is shown to depend strongly on the index decrement as well as the saturation level. By making the media bounding the film have sufficiently different dielectric constants, only one solution is shown to be obtainable. This solution is followed both on the locus diagram relating the field intensities on the film boundaries and on dispersion plots.