Modal dynamics in hollow-core photonic-crystal fibers with elliptical veins

Amit Hochman and Yehuda Leviatan
Department of Electrical Engineering
Technion - Israel Institute of Technology, Haifa 32000, Israel
leviatan@ee.technion.ac.il

Abstract: Modal characteristics of hollow-core photonic-crystal fibers with elliptical veins are studied by use of a recently proposed numerical method. The dynamic behavior of bandgap guided modes, as the wavelength and aspect ratio are varied, is shown to include zero-crossings of the birefringence, polarization dependent radiation losses, and deformation of the fundamental mode.