

LP mode solver (Matlab)

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Description

This library solves the eigenvalue equation for a step-index fibre under the weakly-guided, linear polarisation approximation. The solution is only valid for small fibre numerical apertures with step index profiles.

Examples

LP_example Defines a fibre, finds LP modes, plots all LP modes and displays example amplitude and intensity plots in figures.

Primary Functions

find_LP_modes Find all LP modes of a specified fibre and light wavelength.

plot_LP_mode Plots a specific mode

plot_all_LP_modes Plots all the LP modes found by *find_LP_modes*, optionally plotting cosine orientations.

est_num_modes Estimates the number of modes the fibre will support based on its V number.

Secondary Functions

calculate_LP_mismatch Used by *find_LP_modes* to find solutions to the characteristic equation.