Title: Large and tunable lateral shifts in one-dimensional PT-symmetric layered structures

Abstract: The Goos-Hanchen (GH) shifts of the wave reflected through a PT symmetric multilayer structure is investigated near the exceptional points and the CPA-laser points. We show that the shifts of reflections from different directions have same behaviors, although the reflections are direction-dependent, and the lateral shifts can be greatly enhanced near the exceptional points. Moreover, we predict that at the CPA-Laser points, the reflection and transmission as well as the corresponding shifts are all very large, reaching their negative or positive maxima. Additionally, one may realize the reversal of GH shift through the suitable adjustment of the incident angle and the layer numbers. Numerical simulations for Gaussian incident beams are provided, and reasonable agreement between the theoretical results and numerical simulations is found.