

Description of Additional Supplementary Files

Video for Figure 1: Dispersion Rotation

Adiabatic split-step simulation of the normalised Lugiato-Lefever Equation, with pulsed-drive input $f(\tau)$, for solitary dissipative structure held at the centre while the dispersion coefficients ($d_{2\text{₂}$, $d_{3\text{₃}$) traverse the full unit circle starting and ending at (1,0). The full duration takes $t_{\text{photon}}=11,520$. States observed in order include: switching wave, switching wave with dispersive wave, zero-dispersion soliton of order (6) to (2), soliton molecule, breathing soliton, soliton with dispersive wave, zero dispersion soliton of order (2) to (4), switching wave with dispersive wave, switching wave. (Top left) Unit circle and coordinate for ($d_{2\text{₂}$, $d_{3\text{₃}$), and intracavity energy. (Top right) Frequency domain. (Bottom left) Real and imaginary field contour. (Bottom right) Time domain field power.