



Manipulating dissipative soliton ensembles in passively mode-locked fiber lasers

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Résumé en anglais	<p>We review our recent experimental and theoretical results addressing the dynamics of large numbers of solitons interacting in presence of a background in passively mode-locked erbium-doped fiber lasers. We first characterize experimentally the soliton rain complex dynamics, and then we focus on ordered soliton patterns. We report that, for suitable experimental parameters, a continuous wave can impose harmonic mode locking. Two levels of modeling for a mode-locked laser subjected to the external injection of a continuous wave are developed to support the latter observation. The first one is based on a scalar master equation, while the second one takes into account the mode-locking mechanism more accurately through a vectorial approach.</p>
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Liens

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