



Optimization of Passive and Hybrid Mode-locked Figure Eight Laser

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Mots-clés	hybrid type mode locked eight fiber laser [5], interaction between mode locking mechanism and nonlinear effects in fiber laser [6], mode locked fiber laser [7], passively mode locked eight fiber laser [8]
Résumé en anglais	<p>In pulsed fiber laser using Q-switching or mode locking techniques, the choice of the different components and the management of linear and non linear parameters of the cavity, play a paramount role in the generation of stable ultra short pulses with high peak powers and low widths. In this paper, we focus on the operating process of mode locked fiber lasers especially passively and hybrid type Eight Fiber Lasers (8FLs). By modeling the light propagation within the two cavities, we describe the whole operating process of ultra short pulses generation. The interaction between the mode locking mechanism and nonlinear effects in fiber laser is also illustrated. We demonstrate enhancing non linear effects do not lead necessarily to better results. It depends on the type of mode locking techniques used. The highest and narrowest output pulses are obtained for specific values of the non linear parameters and the mean dispersion of the cavity.</p>
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