

论文

环形腔被动锁模掺铒光纤激光器

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摘要:

通过在非线性偏振旋转环形腔内引入一种可旋转的在线起偏器,在保证装置的全光纤化结构的前提下,简化了被动锁模光纤激光器的结构.通过联合调节可旋转的在线起偏器、1/2波片和1/4波片的角度实现了掺铒光纤锁模脉冲20 nm间隔的双波长调谐输出,调谐过程中观察到了锁模脉冲双波长状态.另外,从装置中去掉1/2波片后,仅调谐可旋转的在线起偏器和1/4波片也能够实现锁模脉冲的单波长稳定输出.

关键词: 在线旋转起偏器 可调谐 被动锁模 光纤激光器

Passively Mode-locked Erbium Doped Fiber Ring Laser

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Abstract:

By introducing the rotatable in-line polarizer into the ring cavity of nonlinear polarization rotation(NPR), the all fiber structure of passively mode-locked ring laser is simplified. The Erbium-doped mode-locked laser with the tuning range of 20 nm is achieved by adjusting the polarizer, 1/2 wave plate and the 1/4 wave plate together. Furthermore, the mode-locked pulses with dual-wavelength are observed during the tuning process. On the other hand, when removing the 1/2 wave plate from the configuration, the mode-locked laser can also be obtained by only adjusting the polarizer and the 1/4 wave plate. The tunable process is presented and analyzed.

Keywords: Rotatable in-line polarizer Tunable Passively mode-locked Er-doped fiber laser

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