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The Effect of Different Coupling in Ring CW Fiber Laser Using Graphene Saturable Absorber (Conference Paper)

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Abstract

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This paper reported the effect of different coupling ratio in continuous wave fiber laser in a ring cavity configuration. We tested coupling ratios of 5/95, 10/90, 20/80, 30/70, 40/60 and 50/50. The output power may vary depending on the ratio and may be apply to specific area that require either high or low output power. We also demonstrate the generation of passive Q-switched erbium doped fiber laser(EDFL) using graphene based saturable absorber in ring cavity with 90/10 coupling ratio. This coupler will be set 10% of the original power will exit the cavity while 90% of the power will be injected back into the cavity. As we analyse the results, we manage to obtain EDFL operates at 1566.2nm. The maximum power recorded is 96mW with pulse repetition rate of 21.23kHz. In addition, the pulse width is 5.215 mu s, output power is 0.206mW and pulse energy is 9.7nJ. © 2018 IEEE.

SciVal Topic Prominence

Topic: Saturable absorbers | Fiber lasers | absorber SA

Prominence percentile: 99.050

Author keywords

Fiber coupler | Graphene saturable absorber | Passive Qswitched

Indexed keywords

Engineering controlled terms: Fiber lasers | Fibers | Graphene | Pulse repetition rate

Engineering uncontrolled terms: Continuous Wave | Coupling ratios | Cw fiber lasers | Erbium doped fiber laser | Fiber couplers | Graphene saturable absorbers | Passive Q-switched | Pulse energies

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