

Experimental optimization of dissipative soliton resonance square pulses in all anomalous passively mode-locked fiber laser

Submitted by Franois Sanchez on Fri, 09/27/2019 - 10:42

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| Titre | Experimental optimization of dissipative soliton resonance square pulses in all anomalous passively mode-locked fiber laser |
| Type de publication | Article de revue |
| Auteur | Ben Braham, Fatma [1], Semaan, Georges [2], Bahloul, Faouzi [3], Salhi, Mohamed [4], Sanchez, Franois [5] |
| Editeur | Institute of Physics |
| Type | Article scientifique dans une revue   comit  de lecture |
| Ann e | 2017 |
| Langue | Anglais |
| Date | Octobre 2017 |
| Num ro | 10 |
| Pagination | 105501 |
| Volume | 19 |
| Titre de la revue | Journal of Optics |
| ISSN | 2040-8978 |
| Mots-cl s | dissipative soliton resonance [6], square wave [7] |
| R sum  en anglais | <p>We investigate experimentally the operational boundaries of dissipative soliton resonance in a double-clad Er:Yb co-doped dual amplifier passively mode-locked figure-of-eight fiber laser. While mode-locking with a nonlinear amplifying loop mirror, we present an exhaustive series of experiments in order to optimize the pulse energy and pulse width tunability. In addition to the pumping power of the amplifiers, several key experimental parameters have been identified such as the net cavity dispersion, the coupling ratio between the two loops of the cavity and the exact position of the long fiber coils. Under optimized conditions, the laser delivers square pulses with an energy varying between 8.5 and 10.1 μJ while the pulse width ranges from 84-416 ns.</p> |
| URL de la notice | http://okina.univ-angers.fr/publications/ua20259 [8] |
| DOI | 10.1088/2040-8986/aa7ead [9] |
| Lien vers le document | https://iopscience.iop.org/article/10.1088/2040-8986/aa7ead [10] |
| Titre abr g  | J. Opt. |

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[1] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=39603>

[2] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=15653>

- [3] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=9358>
- [4] <http://okina.univ-angers.fr/m.salhi/publications>
- [5] <http://okina.univ-angers.fr/francois.sanchez/publications>
- [6] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=29361>
- [7] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=29367>
- [8] <http://okina.univ-angers.fr/publications/ua20259>
- [9] <http://dx.doi.org/10.1088/2040-8986/aa7ead>
- [10] <https://iopscience.iop.org/article/10.1088/2040-8986/aa7ead>

Publié sur *Okina* (<http://okina.univ-angers.fr>)