

ARTICLE

High-impact research from FYLA's R&D Dept

We are thrilled to share that our manuscript published in the August issue of Applied Optics from the Optical Society of America has been highlighted as an Editor's Pick.

Dr. Muñoz-Marco, Dr. Abreu-Afonso, MSc. Gaia Sardiello, and Dr. Pérez-Millán, from our R&D Dept, have recently published on Applied Optics from the Optical Society of America.

The paper presents a theoretical model based on the nonlinear Schrödinger equation to characterize GHz-range passively mode-locked fiber lasers.

The modeled cavities of the lasers are configured by a highly doped and polarization-maintaining single fiber of a single type. For different pulse repetition rates, ranging from 1.0 to 10.0 GHz, gain parameters and pump threshold for a stable mode-locked laser emission are studied. Pulse time width, spectral width, and semiconductor saturable absorber mirror (SESAM) properties are defined to achieve stable emission.

To experimentally validate our theoretical model, 1.0 and 2.2 GHz laser cavities have been built up and amplified. Stable and robust operation for both frequencies was obtained, and the experimental measurements have been found to match the theoretical predictions.

Finally, enhanced environmental stability has been achieved using a cavity temperature control system and an antivibration enclosure.

This piece of work reflects the commitment of our team with developing proprietary R&D and knowledge, which allows FYLA to take our innovations beyond the frontier.

You can check the paper [here](#), under open access.



Ronda Guglielmo Marconi 12. Parque Tecnológico 46980 Paterna - Valencia (Spain)
Tel +34 96 389 10 92 / Fax +34 393 12 95 / fyla@fyla.com / www.fyla.com

We use (our own and third-party) cookies for personalization and advertising purposes to create profiles based on your web browsing history, for example, to show you personalized content. You can accept all cookies by clicking "Accept", or configure them in [settings](#).

Accept

Reject

Settings