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Digital Laser for On-Demand Mode Pulses

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Abstract content
   (Max 300 words)
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In this paper we demonstrate experimentally for the first time a potentially new method of using a digital laser to implement laser pulsing of desired mode shapes with varying intensities. This method shows complete control over the pulse shape, repetition and duration of the pulses is possible by simply controlling the type of holographic grey-scale image that is displayed on the SLM and its display duration to control the Q-switch status of the laser. We show that we can digitally control the output of the laser to be either a series of discrete modulated pulses or cw mode pulses of desired shape with desired repetition in real time on a standard solid-state laser resonator.

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Yes

Level for award
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PhD

Main supervisor (name and email)
and his / her institution

Prof. Andrew Forbes
CSIR - National Laser Center

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NO

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