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High Efficient TEMp0 End Pumped Nd:YAG Lasers

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Abstract content
 (Max 300 words)

The transformation of a single mode TEM00 Gaussian beam by forcing the laser to operate into a symmetrical single mode higher order TEMp0 Laguerre Gaussian beam intensity distribution is very useful in improving and substantially increasing the slope efficiency of the laser due to the increased in the fundamental mode volume of the laser. The beam shaping is achieved by using an annular binary Diffractive Optical Element whose geometry is in connection with the location of the Laguerre polynomial zeros. The Diffractive Optical Element imposes positions of p zeros of intensity distributions on the Gaussian Beam, resulting to a generation of single mode higher order TEMp0 Laguerre Gaussian Beams where there are minimum losses. It is observed that the generation of a single high order mode of TEM50 Laguerre Gaussian beam the slope efficiency is 4 times higher than that of a single TEM00 mode Gaussian Beam.

Apply to be
 consider for a student
 award (Yes / No)?

Yes

Level for award
%nbsp;(Hons, MSc,
 PhD)?

PhD

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

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Would you like to
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No

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