

Design and construction of a transversely excited atmospheric nitrogen laser

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Abstrak

ABSTRAK

A compact, simple and low-cost transversely excited atmospheric (TEA) pressure ultraviolet nitrogen laser (337 nm) has been designed and constructed employing the conventional Blumlein circuit. The measured energy of the output pulse of 337 nm is around 80 -J at 25 kV of charging voltage and 1 atm operating gas pressure. The beam divergence is found to be 7.7 mrad horizontally and 1.5 mrad vertically. The energy output decreases slightly with increasing gas pressure and gas flow rate, while the beam divergence is relatively stable with respect to the same operating parameters.