Title:	Characterization of a blue diode laser and diode laser driven by nanosecond pulses
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Abstract:	We characterize a blue diode laser operating at a wavelength of approximately 470 nm and with an output optical power of 3.5 Watts. A laser diode mount cooled by thermo-electric cooler was designed and its performance was simulated in COMSOL. Beam shaping simulations of the diode laser beam were done to make it suitable for pumping a Ti:Sapphire laser. A nanosecond electrical pulse generator using a transistor in avalanche mode was made and we obtained high amplitude nanosecond pulses. These electrical pulses were used to drive a semiconductor diode laser and 7 nanosecond optical pulses were obtained. We also show the dependence of the pulse duration on the current amplitude for gain switching via simulations.
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