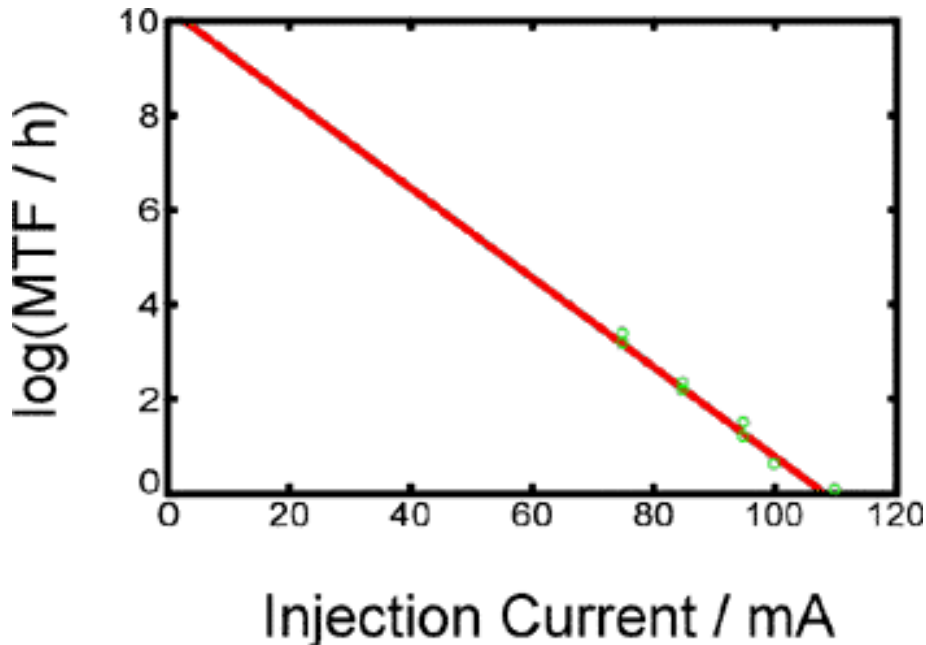


Technical Note – No. 8

Lifetime Test with Sacher Lasertechnik AR-Coated Diode Lasers



We performed a lifetime test with ar-coated 670nm, 5mW diode lasers according to the accelerated ageing method. Therefore, we have driven the set of diodes under extreme conditions regarding the operation current, the temperature and the emission power. The operation temperature was 90°C. Typical optical powers were in the order of 10mW to 15mW. We did not find a significant dependence of the lifetime to the optical power. Then, we varied the injection current between 75mA and 110mA. The measured data are given in the plot as green circles. According to these data we could extrapolate the lifetime for different values of the injection current as shown by the red curve. For the standard operation conditions, we achieve more than 10000h at an injection current of 50mA. There is no significant difference of the test results in comparison with uncoated diode laser.

Document: <http://data.sacher-laser.com/techdocs/lifetime.pdf>

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