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To whom it may concern,

I am writing to you with regards to the University of York quadrupled Nd-Yag laser (Q-switched, operating via flash lamps) that was installed in the Physics department in 2015. This laser, manufactured by Litron, is used as the main source in a Pulsed Laser Deposition (PLD) system. The primary purpose of the laser system is to ablate targets of complex oxides in order to grow thin film oxide and heterostructures. To date we have mainly grown magnetic oxides which belong to the spinel family of materials (AB_2O_4) but will also start to grow perovskites at the end of this year.

Growth times vary depending on the material and film thickness but can range from 10mins to 1hr. We have found the laser to have a stable output over periods much longer than the growth of our thickest films, which is ideal. Whilst there is a slight loss of power as the flash-lamps age, this is quite a normal behaviour for a laser of this design and does not impede the experiments as we typically operate between 50% - 70% of the available output power. The benefits of the solid state system is the ease of controlling the output power without using NDF filters, the avoidance of halogen extraction (typically needed for excimer systems) and very low running costs. The cost of excimer pre-mix has been very volatile recently. We have found the laser very easy to use, reliable and able to produce high quality oxide films evidenced by XRD, RAMAN spectroscopy and magnetometry.

Yours faithfully,

Dr S A Cavill