

**Master 2016**

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**Advanced Solid-State Light Sources: Measurement and Characterization.**

***ABSTRACT - Masterthesis***

Solid-state lighting has been evolving very fast over the last few years. Remote phosphor based applications, both with blue LED and laser diodes (LD), have gained significant momentum. However, there are still many open issues. In this M.Sc. project, some of the open issues will be addressed through carefully conceived simulations, experiments and data analysis.

The aims of the project is the measurement of photometric, radiometric and electrical parameters, using existing laboratory equipment like Goniophotometer, Lux Meter, Integrating Sphere, Spectrometer, and Laser beam profiler. Subsequent to this, The effect of laser spot size and beam profile on luminous flux, luminance and angular distribution of spectra is studied. Furthermore, the effect of temperature of the remote phosphor module on efficacy (lm/W), thermal quenching and failure modes of remote phosphor modules. Finally, the droop in LEDs under various driving conditions is observed.