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**Development and Testing of the Testbench for Optical Communication Transceivers.**

***ABSTRACT - Masterthesis***

In free space optical communication links like satellite-to-ground (both up-links and down-links), terrestrial links, links between high altitude platforms (HAP), HAP-to-ground, aircraft-to-ground the signal has to propagate through the atmosphere. This atmosphere deteriorates the quality of the received signal by fading caused by optical turbulence. The performance of Laser Ethernet transceiver (LET) as an optical transceiver needs to be checked before putting it on real operation. The LET translates the electrical Ethernet frames to more robust format so that the transmitted signal can withstand the optical turbulent channel and provide an error-free, high speed data transmission. Due to high cost on time consuming real experiments, a fading simulator has been developed based on the actual fading channel to the optical transceiver.