



MYRIAGATOR FOR AFFORDABLE AND HIGH PERFORMANCE DISTRIBUTED FBG SENSING

One of the key advantages of fiber sensing compared to electronics sensors is the ability to integrate multiple measurement points down a single fiber line.

Probing particular FBG sensors is done by allocating a certain frequency bandwidth for each sensor, of which there is limited total window available (e.g. 8 for a gator). Sensor multiplexing in one fiber can, however, also be obtained in the time domain.

A new method has been demonstrated to work with our standard gator architecture by the addition of a time-modulated optical amplifier in line between the gator and the sensor array. This timedomain multiplexing allows for tens to hundreds of unique sets of FBGs to be interrogated in a single fiber consecutively, vastly extending the range of sensors into the thousands that can be analyzed with a single interrogation system. This highly demanded system will soon become available as the **MyriaGator**, of particular interest to distributed sensing applications requiring many sensors for instance for thermal mapping and security monitoring.

MyriaGator



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