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Elastic LIDAR Monitoring of the Night-sky Brightness over the Observatory Roque de los Muchachos

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Every large world-class observatory must operate in a very dark environment that is as free as possible of anthropogenic sources of light pollution, which can degrade the quality of ground-based astronomical observations. Any LIDAR is able to measure, and subtract from its laser return signals, a corresponding contribution from the night-sky brightness. Our elastic LIDAR system is operated in semi-continuous mode at night, very closely following the observation schedule of the MAGIC Telescopes on Canary island La Palma, Spain. For the comparative monitoring of the night-sky brightness, median LIDAR background rates, as well as the currents in the PMTs and SBig Starguider cameras of the MAGIC Telescopes, have been used. In this talk, results from data taken with the MAGIC LIDAR over seven years, from March 2013 until March 2020, will be presented and discussed.

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