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# Applying astronomical techniques to characterise ground-based light pollution sources

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The effects of light pollution by artificial ground sources increasingly impact the quality of the night sky for humans, biodiversity, and astronomy. Although a worldwide problem, Chile is disproportionately affected by light pollution due to the high concentration of the world's leading observatories. To minimise these effects, Chile has introduced emission standards with the aim of reducing light emissions to the sky and to promote the use of technology that does not emit outside the visible spectrum, which otherwise would hinder astronomical observations.

We present the first preliminary results of our pilot project (supported by the ESO fund 2020), which aims to test the effectiveness of emission standards set by the Chilean government by creating a detailed light emission survey of the Antofagasta urban city and surrounding area using an Unmanned Aerial Vehicle (UAV). If successful, this method can provide a cost-effective and efficient path to assess and mitigate the effects of ground-based light pollution sources in astronomical hubs all around the world.

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