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NIXNOX project: Sites in Spain where citizens can enjoy dark starry skies

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Abstract. The NIXNOX project, sponsored by the Spanish Astronomical Society, is a Pro-Am collaboration with the aim of finding sites with dark skies. All sky data of the night sky brightness is being obtained by amateur astronomers with Sky Quality Meter (SQM) photometers. We are not looking for remote locations because the places should be easily accessible by people with children. Our goal is to motivate citizens to observe the night sky. NIXNOX will provide information to answer the question: where can I go to observe the stars with my family?

Keywords. Light Pollution, Night Sky Brightness, Photometry

The NIXNOX project.

This is a Pro-Am collaborative effort promoted and sponsored by the Spanish Astronomical Society (SEA) to find and characterize open air observatories. The observations and additional information are being provided by amateur astronomers. It contributes to outreach in Astronomy and it is a help to dark skies fights but it is also a scientific project. Our objectives are to locate sites with dark skies with easy access, to encourage local authorities to preserve them and finally to help citizens to enjoy the starry skies.

Night sky brightness maps. All-sky maps of the night sky brightness are being obtained by amateur astronomers associations in places selected by them. They are using 12 SQM-L photometers on loan from SEA that were cross-calibrated by us. The observations should be made on clear and moonless nights. The spatial sampling is a trade-off between resolution and the time needed to complete a map. Since SQM-L photometers have a field of view of 20 degrees (FWHM), we select to observe, besides zenith, 12 positions in azimuth at 20, 40, 60 and 80 degrees of altitude. The resulting all-sky maps (in units of magnitudes per square arcsecond) are similar to calibrated fish eye pictures of the sky and they inform us of the sources of light pollution. Evolution of the light pollution will be measured with repeated observations over the next years.

Additional information. More than 50 amateur astronomer associations of Spain are collaborating with SEA. They are also gathering additional information. For each site the SEA webpage will also provide a brief description with panoramic pictures, lodging and meteo information, how to reach the site, etc. The Spanish Astronomical Society will publish these information to help the citizens to choose where to go to observe the stars with their family or friends. More info about NIXNOX can be obtained at SEA webpage http://www.sea-astronomia.es/.