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Optical Characterization and GIS Mapping of Light Pollution in West Texas HILLARY PROFFIT, SHIVAKUMAR SURENDRANATH, HARDIN DUNHAM, Angelo State University — Images of the night sky have been collected in Tom Green County using two SBIG, all-sky CCD cameras. A process has been developed using various software to extract the CCD count data from the images and create an intensity profile across traces in the sky. By correlating stellar magnitudes with the CCD counts recorded, we are able to create an intensity profile of the night sky. Combining current geographical information through the use of GPS locations, the light pollution distribution can be mapped. This research will present data processing methods, techniques, and preliminary results which will be used to map the distribution of light pollution over several years. The continuation of mapping light intensity distributions in West Texas will provide a foundation for future comparisons of light pollution, and raise public awareness for preserving natural dark-sky resources.

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