

## DISTRIBUTED SENSOR NETWORKS IN COLLABORATION WITH CITIZEN SCIENTISTS

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Humans have been forever fascinated with the night-sky and all the associated phenomena. Auroral research has benefited from this curiosity driven citizen science tremendously, more so in recent years. Most optical phenomena of interest to the space weather community are often spread over 100s or 1000s of km in horizontal distance. Therefore, having a large window that can observe both the small and large scale features accelerates the process of scientific discovery, while also providing a useful tool for the curiosity driven citizen science due to the distributed nature of observations. The THEMIS network of all-sky imagers observing aurora is a prime example of this.

Recently, Mid-latitude All-sky-imaging Network for Geospace Observations (MANGO) has been established in the continental United States giving a similar window to the F-region ionospheric processes as observed in the airglow. The MANGO network captures mid-latitude ionospheric dynamics that are often driven by lower atmospheric processes like powerful thunderstorms or hurricanes. During geomagnetically active times, this network sees expansion of auroral oval and dynamics driven by high-latitude substorms and ring current. This network was established in collaboration with amateur astronomy observatories and rural high-schools in the CONUS region, reaching an enthusiastic audience made up of amateur astronomers, science teachers and high-school students, who typically don't hear about space weather and are highly receptive of the opportunity to do so.

There is a great potential for the space weather community to establish distributed networks of small sensors in collaboration with high-schools and other citizen science initiatives that would both advance scientific endeavors while generating enthusiasm among public at large and inspire next generation of space scientists.