

São Paulo Lightning Mapping Array (SP-LMA): Deployment and Plans

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ABSTRACT: An 8-10 station Lightning Mapping Array (LMA) network is being deployed in the vicinity of Sao Paulo to create the SP-LMA for total lightning measurements in association with the international CHUVA [Cloud processes of the main precipitation systems in Brazil: A contribution to cloud resolving modeling and to the GPM (Global Precipitation Measurement)] field campaign. Besides supporting CHUVA science/mission objectives and the São Luz Paraitinga intensive operation period (IOP) in December 2011-January 2012, the SP-LMA will support the generation of unique proxy data for the Geostationary Lightning Mapper (GLM) and Advanced Baseline Imager (ABI), both sensors on the NOAA Geostationary Operational Environmental Satellite-R (GOES-R), presently under development and scheduled for a 2015 launch. The proxy data will be used to develop and validate operational algorithms so that they will be ready for use on “day1” following the launch of GOES-R. A preliminary survey of potential sites in the vicinity of Sao Paulo was conducted in December 2009 and January 2010, followed up by a detailed survey in July 2010, with initial network deployment scheduled for October 2010. However, due to a delay in the São Luz Paraitinga IOP, the SP-LMA will now be installed in July 2011 and operated for one year. Spacing between stations is on the order of 15-30 km, with the network “diameter” being on the order of 30-40 km, which provides good 3-D lightning mapping 150 km from the network center. Optionally, 1-3 additional stations may be deployed in the vicinity of São José dos Campos.

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