Global auroral imaging in the ILWS era

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Abstract: The overarching objective of the ILWS Geospace program is to facilitate system level science. This demands synoptic observations such as global auroral imaging. At present, there is no funded mission during ILWS that incorporates a global auroral imager. The imaging community needs to move now to address this important gap. While doing so, it is interesting to take stock of global auroral observations that have not been achieved, or that have been achieved only to a limited extent. These include simultaneous imaging across all relevant scales, spectral resolution of sufficient quality to allow for global maps of characteristic energy and energy flux of precipitating electrons, continuous global auroral imaging for time periods spanning long-duration geomagnetic events, systematic interhemispheric conjugate observations, auroral observations magnetically conjugate to in situ measurements, and automatic classification of auroral images. These observations can be achieved within the next decade. If they are, then they will facilitate exciting new science. © 2007.

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