All-sky images at 630 nm for the study of plasma irregularities in the upper atmosphere

Esmeralda Romero-Hernández<sup>1</sup>, Federico Salinas Samaniego<sup>1</sup>, Jerson Gamez Castro<sup>1</sup>, Cristiano Wrasse<sup>2</sup>,

Eduardo Pérez-Tijerina<sup>1</sup>, Clezio Denardini<sup>2</sup>, Américo González-Esparza<sup>3</sup>, Maria Sergeeva<sup>4</sup>, P. F. Barbosa

Neto<sup>2</sup>, Regia Laysa C.A. Resende<sup>2,5</sup>, Giorgio A. S. Picanço<sup>2</sup>, Ernesto Aguilar-Rodríguez<sup>3</sup>, Sony S. Chen<sup>2</sup>,

Carolina S. Carmo<sup>2</sup>, Juliano Moro<sup>5,6</sup>

<sup>1</sup>Facultad de Ciencias Físico-Matemáticas, UANL, <sup>2</sup>National Institute for Space Research, INPE, <sup>3</sup>Instituto de

Geofísica, Unidad Michoacán, UNAM, 4CONACyT, SCIESMEX, LANCE, Instituto de Geofísica, Unidad Michoacán,

UNAM, <sup>5</sup>National Space Science Center (NSSC/CAS), <sup>6</sup>National Institute for Space Research/ South Regional Center

(INPE/CRS)

Abstract:

The observation of the upper atmosphere using airglow is very relevant to complement the study on the

generation of plasma irregularities that cause disruptions in radio communications. We present a report

about a new all-sky imager installed in the northern part of Mexico (24.7°N, 99.8°W), for observing

plasma irregularities, particularly Travelling Ionospheric Disturbances (TIDs). The main objective of this

instrument at hand is to characterize TIDs based on the horizontal wavelength, phase velocity, period

and propagation direction, and further, developing studies on its dynamics.

Acknowledgment: We thank the support of PRODEP (SEP), and the Center for Geospace Studies, SRI

International.

**References:** 

**Session:** Ionosphere and atmosphere

Oral or Poster: Poster