THE MILLIMETER WAVE OBSERVATORY ANTENNA NOW AT INAOE-MEXICO

Abraham Luna[1]

The antenna of 5 meters in diameter of the legendary "Millimeter Wave Observatory" is now installed in the INAOE-Mexico. This historic antenna was re-installed and was equipped with a control system and basic primary focus receivers that enabled it in teaching activities. We work on the characterization of its surface and on the development of receivers and spectrometers to allow it to do research Solar and astronomical masers. The historical contributions of this antenna to science and technology in radio astronomy, serve as the guiding force and the inspiration of the students and technicians of our postgrade in Astrophysics. It is enough to remember that it was with this antenna, that the first molecular outflow was discovered, several lines of molecular emission were discovered and it was the first antenna whose surface was characterized by holography; among many other technological and scientific contributions.

[1] Instituto Nacional de Astrofísica, Óptica y Electrónica, Apartado Postal 51 y 216, Tonantzintla, Puebla, México (aluna@inaoe.mx).

THE CARRINGTON EVENT AND OBSERVATION OF AURORAE AT VERY LOW LATITUDES

F. Moreno Cárdenas[1], S. Cristancho Sánchez[1], and S. Vargas Domínguez[2]

The Carrington Event was a spectacular blaze of light observed on the solar surface on September 1, 1859, produced by intense activity occurring in the Sun and having remarkable consequences on Earth, e.g. extraordinary aurorae reported during the dawn on September 2th. The supreme solar-terrestrial event is the most energetic of which we have records and the associated geomagnetic storm produced a major auroral oval that expanded towards the equator of the planet. In this work we show, based on historical evidence, that the associated aurorae displayed in Montería, Colombia, at latitude 8° 45' N. We propose that the location of the Earth's geomagnetic north pole, the lowest in at least five centuries, added to the very energetic solar event, allowed the aurora to reach such low latitudes.

[1] Centro de Estudios Astrofísicos, Gimnasio Campestre, Bogotá, Colombia (ceaf@campestre.edu.co).
[2] Universidad Nacional de Colombia - Observatorio Astronómico, Bogotá - Colombia.

XV Latin American Regional IAU Meeting (Cartagena de Indias, Colombia, 3-7 October 2016)
Editors: Mario Armando Higuera Garzón & Santiago Vargas Domínguez