

SCINTILLATION EVENTS OVER VIETNAM ON APRIL 2006

Lucilla Alfonsi, Luca Spogli, Jenna R Tong, Giorgiana De Franceschi,
Vincenzo Romano, Alain Bourdillon, Minh Le Huy, Cathryn N Mitchell

Key words:

Abstract.

In Vietnam, at Hue ($16.4^{\circ}N, 107.6^{\circ}E$) and Hoc Mon ($10.9^{\circ}N, 106.6^{\circ}E$), are located two GPS receivers specially modified for recording, at a sampling rate of 50 Hz, the phase and the amplitude of the L1 signal and the Total Electron Content (TEC) from L1 and L2. In April 2006 both the receivers have observed postsunset scintillation inhibition when moderate magnetic storms occurred. These measurements together with a 3D plus time imaging of the ionosphere produced by the Multi Instrument Data Analysis System (MIDAS) have revealed interesting features that will be described in the present paper. MIDAS allows the characterization of the TEC condition over the area of interest supporting the speculation on the causes resulting on scintillating GPS signals received at ground. The results confirm the role of the ring current on the generation of the equatorial F layer smallscale irregularities, in relationship with the observed inhibition of scintillations during the storms. The case studies will be discussed also by looking at the different conditions of the Interplanetary Magnetic Field (IMF), to attempt a description of the scintillation effects over a region scarcely investigated in the open literature.