**Intense Space Weather during 7-8 March 2012:**

**Identification of its Sources and their Pathways via a Comprehensive**

**Sun-to-Earth Analysis of Multi-spacecraft Observations**

During the interval 7-8 March 2012, the Earth's space environment experienced a barrage of Intense Space Weather Phenomena.

Early on during the 7th, the biggest proton event of 2012 took place, while around 10 UT on the 8th, an Interplanetary Coronal Mass Ejection (ICME) arrived at 1 AU. The ICME triggered the biggest geomagnetic storm of cycle 24 so far, with the DsT index attaining a minimum value of $≈$-150 nT, and a significant ( $≈$ 10%) cosmic ray decrease.

These activities were associated with a pair of X-class flares during the beggining of 7th March 2012, which were associated with two ultra-fast ($>$2000 $kms^{-1}) $Coronal Mass Ejections (CMEs). Given that both these powerfull events originated from the *same* solar active region and their onsets were separated by almost an hour, makes it very challenging to determine which of the event(s) was responsible for the energetic particles observed at various locations in the heliosphere as well as for the particles and fields that impinged on the magnetosphere. Using satellite data from a flotilla of solar, heliospheric and magnetospheric mission and monitors, we perform a synergistic Sun-to-Earth study of various observational assets of the related events (e.g.,flare and CME, EUV wave, WL shock, proton and electron event, interplanetary type II radio burst, ICME and magnetic cloud) and their temporal and spatial relationships and connections and formulate a cohesive physical scenario aiming to explain the string of the various observables and assess the various physical mechanism(s) which gave rise to the geoffectiveness of the eruption.