
Contribution ID: **190** Contribution code: **S1 Physics Innovation** Type: **Oral Presentation**

# Night-time Human Mobility during Pandemic in the Philippines as Observed by VIIRS Satellite

*Thursday 23 June 2022 15:30 (15 minutes)*

A recent study has investigated and studied the growing body of research endeavors on human mobility during quarantine periods, employing a variety of methodologies and procedures. There are also numerous approaches to assessing human mobility using light pollution data. This study focuses on analyzing data on light pollution and the COVID-19 cases in the Philippines. The Visible Infrared Imaging Radiometer Suite (VIIRS) satellite data can be used to quantify light pollution as human mobility in the Philippines while the country has employed different quarantine classifications in the different regions. For this investigation, NASA's EOSDIS Worldview website provided the light pollution data while the Philippines' Department of Health (DOH) for the COVID-19 cases. It revealed that between early April and late August 2020, the number of COVID cases and light pollution increased. From September to January 2021, COVID cases decrease, while human mobility is almost constant. From February to April 2021 the number of COVID cases has immensely increased. This could be explained as an effect of the increased human activity between December 2020 and January 2021 which is the Christmas season in the country. Since August 2020, human contact has been intense, resulting in a rise in COVID cases that peaked between March and April 2021 and then declined in May 2021. As a result of this study's findings, light pollution VIIRS satellite images can be utilized to identify suspected COVID-19 cases in an area. When creating a full paper, there are numerous additional factors and variables to consider. Once the flexible quarantine period is extended, dates may be further investigated.

**Author:** GUIDO, Ryan Manuel

**Presenter:** GUIDO, Ryan Manuel

**Session Classification:** S1 Physics Innovation

**Track Classification:** Physics Innovation