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## Meso-scale ionospheric variations revealed from the Beidou geostationary orbit (GEO) satellites

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Great achievement and progress have been made in the studies of ionospheric global scale variations and ionospheric climatology in the past decades, but the meso- and small-scale structures of the ionosphere are not understood yet. This talk will present the meso-scale variations of the ionosphere, including the zonal ionospheric gradient with the scale of hundreds and medium scale ionospheric travelling disturbances from regional ionospheric networks associated with Beidou geostationary orbit (GEO) satellite. As compared with non-GEO data, the BeiDou GEO ionospheric observations provide a unique dataset to study ionosperic meso- scale variations, without contaminating the spatial variations and elevation changes due to satellite motion.