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Meridional movement of southern and northern Equatorial Ionization Anomaly crest in Asian sector

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Using the daytime location of equatorial ionization anomaly (EIA) crest derived from GPS data in the Asian sector from 2000 to 2007, the meridional movements of southern and northern EIA crests on diurnal, seasonal and solar cycle time scales are studied. The MLAT location of both crests exhibits obvious diurnal variation that moves pole-wards and then equator-wards with the development of EIA crest. The location of both EIA crests shows seasonal dependence, roughly, both EIA crests locate in the equator-wards side in summer months and in the pole-wards sides in equinoxes months. In addition, the location of both EIA crests exhibits solar cycle variation, they move from the higher latitude in solar maximum phase to the lower latitude in solar minimum phase. These dependences are more obvious in northern hemisphere than that in southern hemisphere, and the difference of the sub-solar point and the neutral wind on both hemispheres is responsible for these dependences.