

## **Observation of Equatorial Plasma Bubbles by KOMPSAT-1**

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The global distribution of equatorial plasma bubbles (EPBs) from June 2000 to August 2001 is investigated using in-situ plasma density measurements from Korea Multi-Purpose Satellite-1 (KOMPSAT-1) at an altitude of 680 km at 2230 LT. EPBs were observed at all longitudes around the magnetic dip equator in the vernal equinox with the peak occurrence in the American-Atlantic-African regions. During the northern summer EPBs occurred predominantly in the African sector, with enhancements in the magnetic north in the Indian and west Pacific regions, but were totally suppressed in the American-Atlantic sectors. During the northern winter EPBs occurred frequently in the America-Atlantic sectors but were suppressed in other longitude sectors, especially in the Pacific sector. The EPB occurrence probability was seen correlated with the topside plasma density and the prereversal upward drift speed, with their respective dominance dependent on the seasons. However, the peak EPB occurrence in the American-Atlantic sector during the northern winter is displaced somewhat from the region of peak density and upward drift, possibly due to a strong solar terminator influence of the flux tube-integrated E-region Pedersen conductivity. The peak occurrence of the EPBs in the African sector during the northern summer is consistent only with the high ambient density, for neither the maximum drift nor the minimum E-region Pedersen conductivity can be seen in that sector.