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Title:	Direct observational evidence for the merging of equatorial plasma bubbles
Authors:	Narayanan, V.L. (/jspui/browse?type=author&value=Narayanan%2C+V.L.) Gurubaran, S. (/jspui/browse?type=author&value=Gurubaran%2C+S.) Shiokawa, K. (/jspui/browse?type=author&value=Shiokawa%2C+K.)
Keywords:	Equatorial plasma bubbles OI 630.0 nm airglow Equatorial ionosphere
Issue Date:	2016
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Citation:	Journal of Geophysical Research A: Space Physics, 121(8), pp.7923-7931.
Abstract:	In this work we present direct ground-based observational evidence for the merging of individual equatorial plasma bubbles (EPBs) obtained through the imaging of OI 630.0 nm airglow. Three potential mechanisms have been identified: (1) One of the EPBs tilts and reaches location of the adjacent growing EPB finally merging with it. (2) Some of the branches of an EPB arising from secondary instabilities reach out to adjacent EPB and merge with it. (3) The eastward zonal drift of the EPB on the eastern side slows down while the adjacent EPB on the western side drifts relatively faster and catches up. In one of the cases, a branch of an EPB was observed to get interchanged with another EPB as a result of merging and consequent pinching off from the parent EPB.
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