

## Study of relationship between low-latitude ionospheric E,F-Region with the Equatorial Atmosphere Radar and SEALION observations

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In the low-latitude ionospheric E- and F-region, field aligned irregularities (FAIs) occurs frequently in the nighttime.

The Equatorial Atmosphere Radar (EAR) located at West Sumatra Indonesia (0.2S, 100.32E, 10.6S; geomagnetic latitude) has started experiment of the low-latitude ionosphere since 2001, and revealed spatial structure of the plasma bubbles. It is now expected that the bottomside of the equatorial F-region couples to the low-latitude E-region through the field line. There are some evidences for that, but the physical processes is not well understood. Generating mechanisms of the E-region FAIs not studied well either.

In this paper, we study these subjects by investigating E- and F-region FAIs data with the EAR, and compare them with the background ionosphere that is observed simultaneously with the SEALION ionosonde network.

The core period for the study is March, April, Jun, July, August, October and November 2005 when all instruments were working fine.