

System evaluation of the Equatorial Atmosphere Radar (EAR)

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We have developed the Equatorial Atmosphere Radar (EAR) and installed it near Bukittinggi, West Sumatra, Indonesia (100.32E and 0.20S). The EAR is a large monostatic Doppler radar with the frequency of 47 MHz and the peak output power of 100 kW. The EAR has a circular antenna array of approximately 110 m in diameter, which consists of 560 three-element Yagi antennas. It is an active phased array system with each Yagi driven by a solid-state transceiver module. This system configuration makes it possible to direct the antenna beam by electronic control up to 5,000 times per second.

