

Fine radar echo structure revealed by a high scanning and high-range-resolution X-band marine radar

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We used an X-band (9410 MHz) marine radar (KODEN Co., Ltd.), which is not powerful and not very sensitive (its peak transmitted power is 25 kW and minimum detection power is -90 dbm); however, the radar has a high range resolution (15 m). Although its antenna usually rotates horizontally to detect ships, we changed the rotation direction of the slot antenna (2 m in length) from horizontal to vertical (Range Elevation Indicator-scan), and recorded every 2 s. We deployed this radar at various places. We will report very interesting phenomena that are firstly detected by this high-scanning and high-resolution radar.

Keywords: marine radar, fine structure of radar echo, precipitating cloud, angel echo, gravity current head