



## Precipitation profile Characteristics over the Tibetan Plateau

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Based on measurements derived from tropical rainfall measuring mission (TRMM ) precipitation radar (PR) the vertical profiles of precipitation over the Tibetan Plateau were examined and compared with those over East Asia and the Tropics Weak deep convective precipitation was found to be the predominant rain type over the Plateau which covers the total samples by about 90 and contributes to more than 90% of the total rainfall It was also shown that the maximum rainrate occurs near the surface of TP and the rain top altitude is near 13 km over sea level Four significant differences between the precipitation profiles over the Plateau and those of other areas are identified as, firstly, there is no stratiform rain over the Plateau which could be easily found over other regions. The second is that the water-ice mixed layer cannot be separated from ice-supercooled water layer because only two distinct layers could be identified for the convective rain profile over the Plateau compared to three or four layers over other areas. Furthermore, a vertically compressing effect is placed on the convective rain which results in a rain layer depth of about 10 km significantly less than those over East Asia and the Tropics. Finally, profile feature displays that its slope for weakly deep convective precipitation over the Plateau is much more than that of other areas which indicates a greater latent heat released at higher levels over the Plateau