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Drop Size Distribution Characteristics of Typhoon Haishen (2020) in Korea

Jeong A Kim[1] and Dong-In Lee[2]
[1]Division of Earth Environmental System Science (Major of Environmental Atmosphere Sciences), Pukyong National University, Busan, Republic of Korea (kja314@pukyong.ac.kr)
[2]Department of Environmental Atmospheric Sciences, Pukyong National University, Busan, Republic of Korea (leedi@pknu.ac.kr)

Recently the frequency of autumn typhoons has increased on the Korean Peninsula and their damage has also increased. The Korea Meteorological Administration (KMA) established a super-strong stage to raise awareness of such a powerful typhoon, Typhoon Haishen (2020). In usual the life cycle of the typhoon is divided into three stages: developing, mature, decaying. To analyze the impact of typhoon Haishen on the Korean Peninsula, this study focused on the landfall and decaying stage. To investigate the microphysical characteristics of the typhoon over time, the drop size distribution (DSD) at the azimuthal direction of the typhoon was studied. DSD variables were obtained by using PARSIVEL (PARticle SIze and VELocity) disdrometers at eleven observation sites from Geoje (34.88°N, 128.57°E) to Ulsan (35.58°N, 129.33°E) that located along the southern coast of Korea. As typhoon Haishen landed at the vicinity of Ulsan (35.3°N,129.3°E), the observation sites were included between the centre of the typhoon and the wind impact radius. Four days before typhoon Haishen landed, typhoon Maysak (2020) landed at the vicinity of Busan (35.4°N,128.9°E) and decayed. The intensity of typhoon Maysak was weakened and the form of convective cells became unclear after landing. Typhoon Haishen was also slightly weakened after landing, however, the form of convective cells and wind impact radius were continuously maintained.