EFFECT OF MAGNETIC FIELD ON CHARGED WATER VAPOUR IN MOTION

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ABSTRACT

Drought and flooding are worldwide problems. The traditional methods of solving them lack efficiency. To proffer informative framework for solving these problems, this study developed laboratory experiments that investigated the effect of magnetic field on charged water vapour. During the experiment, charged and uncharged condensed droplets generated inside cloud chamber were focused with magnetic field $\boldsymbol{B}$ from stacked solenoid system and permanent magnet. These were enclosed inside a calorimetric cupboard of about 120 ℃. Results obtained showed that uncharged water vapour remained cloudy inside the chamber for about 121 s before the production of droplets of diameter D_C << 1.0 mm that coalesced in about 362 s with diameter $D_N \leq 2.0$ mm after 1200 s of magnetic interaction. Prior to condensation, the cloudiness of charged vapour lasted for about 6 s, coalesced in about 35 s with $D_C \cong 1.0 - 4.0\ mm$ and $D_N \cong 2.0 - 5.0\ mm$.

Keywords: Calorimetric cupboard, Magnetic interaction, Charged cloud droplet and Coalesced droplet.