



Ice fall streaks in a warm front . An S-band polarimetric radar study

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On 21st January 2009, a maturing low pressure system approached the UK along with several associated systems. An observational research flight (part of the APPRAISE-Clouds project) took place in southern England, sampling the leading warm front of this system. During the flight, the Warm Conveyor Belt (WCB) was well depicted by the radar Doppler velocity parameter. Simultaneously, extensive ice fall streaks appeared on ZDR RHI scans as long slanted zones of high ZDR. It seems that there is a connection between the WCB activity and the formation and structure of the ice fall streaks. The Kelvin-Helmholtz instability caused by the WCB played a key role on their formation. Moreover, in-situ measurements showed that the ice fall streaks had a very specific substance and they can affect the surface precipitation.