



The German Pancake - a Radar Mystery

B. Hassler, A. Wagner, J. Seltmann, P. Lang

Met. Obs. Hohenpeissenberg, German Weather Service, Germany

In Germany and the international community the assimilation of radar data into NWP and hydrological models has come to a pressing issue. In recent years, modellers have become critical users of radar data promoting the necessity of higher data quality. For instance, the NWP's spin up in locations where radar wrongly indicates precipitation, and hydrological products sum up even small reflectivities to substantial rain amounts. Besides the known sources of non- meteorological echoes, such as remnants of ground clutter, ships or anaprop, new species of 'trouble makers' have turned up, such as wind parks and increasing interference of microwave transmitters. Moreover, mostly close to large towns, strange echoes have been observed which we call the "German pancake". It is characterised by a small vertical but huge horizontal extension, weak reflectivity and often a circular shape. The reflectivity patterns are not stationary but moving and show a non-zero Doppler velocity. We never observed a 'German pancake' in cold periods, winter nor during night-time. As the impact of this phenomenon on model outputs can be dramatic, it is our concern to understand and hopefully correct this effect.