Dual polarisation technique to improve the identification of RLAN interference

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Data from the UK weather radar network underpins many of the services provided by the Met Office, particularly those related to severe weather. The presence of spurious echoes is a major limitation in the use of quantitative precipitation estimates (QPE) in hydrological models. Furthermore, over recent years, the rapidly emerging problem of interference from other users of the radar frequency (e.g. RLANs) has shown to dramatically degrade the QPE products.

The UK network is currently undergoing a major engineering upgrade to dual polarisation. A new algorithm using dual polarisation parameters such as ZDR, PhiDP and RhoHV has been developed to identify and remove several types of non-precipitation echoes. In particular, this new scheme is well suited to reduce the false alarm rate caused by the presence of RLANs, anaprop and migrating birds. It also shows some potential for improving the detection of light precipitation and for the removal of clutter due to wind turbines.