

Radio signals research scans new horizons

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A study at the University of Leicester aims to understand the reasons why radio signals sometimes act unpredictably- travelling beyond the horizon and interfering with other signals.

This is important because reliable radio signalling is not only economically beneficial, it is important in terms of safety.

Now doctoral research by Naveed Mufti, from Peshawar, Pakistan, is examining transmission of [radio signals](#) across the English Channel.

Preliminary results from the study will be showcased at the University of Leicester's Festival of Postgraduate Research on 24 June.

Mr Mufti said: "Unpredictable behaviour by radio signals can disrupt vital communication. The Radio Systems Research Group in the Department of Engineering is conducting a study across the English Channel between Jersey, Alderney and Portland.

"The research is aimed at analysing the data to produce statistics that will aid network designers in predicting interference between radio signals. This is expected to lead to more reliable [radio communication](#) and efficient utilisation of available radio resource, generating socio-economic benefits."

Radio communication uses the [radio frequency spectrum](#). Use of the spectrum in 2007 contributed almost 3% of the UK's GDP. In early 2008, Ofcom, the telecom regulator auctioned portions of mostly unused

portions of this spectrum, raising roughly £1.4 million.

Mr Mufti added: "Normally, the power of radio signals decreases with distance. Most public-use radio signals are not intended to travel beyond the horizon. However, certain meteorological conditions cause radio signals to travel beyond the expected range. This enhancement potentially causes interference to other systems. Hence, there is a need to fully understand the propagation of radio signals in different environments."

Provided by University of Leicester

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