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Particle flux forecast using space wind parameters in a multivariate auto-regressive model with Kalman filtering

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Abstract content
 (Max 300 words)

Particles from the solar wind penetrate into the Earth's radiation belts where they can have a detrimental effect on the operation and lifetimes of satellites as well as influencing terrestrial communications and power lines. Forecasting conditions in the solar wind is thus an important problem. Previously this has been approached with various techniques including Kalman filtering and neural networks. We combine a Kalman filter with a multivariate autoregressive model based on pertinent features of the solar wind. In line with the findings of Sakaguchi et al (2013) this is expected to provide superior forecasting of solar wind conditions.

Apply to be
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Yes

Level for award
 (Hons, MSc,
 PhD)?

Hons

Main supervisor (name and email)
and his / her institution

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Would you like to
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Yes

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