

**New methods for RFI mitigation with applications to  
incoherent scatter and to ionosonde processing**

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We present RFI mitigation methods that can be used to deal with strong interference that can be present in the pass band of a radar receiver. The method is based on time and frequency localized sample estimation of the receiver noise covariance matrix, as well as detection and removal of strong spikes. The methods are not computationally intensive, and require very little tuning or human intervention. We show examples of the methods applied to incoherent scatter radar plasma-line measurements and to ionosonde measurements severely corrupted with noise.