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Special Issue on Interference Mitigation Techniques in Radio Astronomy

Guest Editors: Kaushal D. Buch, Albert-Jan Boonstra, Gregory Hellbourg, Jonathon Kocz and Urvashi Rau

CONTENTS

Cover image: Composed of images from 3 articles. Counterclockwise from lower left: 1. The Focal L-band Array feed for the Green Bank Telescope (FLAG), 19-element dual-polarization L-band array. Array receivers such as this enable ready application of spatial filtering and adaptive beamforming algorithms to mitigate RFI. Associated article: Black *et al.*, "Deep, Broad Null Formation For Canceling Moving RFI in Radio Astronomical Arrays." 2. The statistical significance of interference detections in a ~650 ms snapshot of data collected by the CHIME telescope, as a function of frequency. Interference during this interval comprised impulsive broadband and continuous signals with various bandwidths, as inferred using the SKg statistical estimator. The example shown here highlights the dynamic nature of RFI and the value of techniques that can process high time cadence, broadband data. Associated article: Taylor *et al.*, "Spectral Kurtosis Based RFI Mitigation for CHIME." 3. Passive microwave remote sensing of the Earth from space provides information essential for understanding the dynamic terrestrial environment. Interference from artificial sources is an impediment that can limit the potential for accurate remote sensing from space. Shown in the figure is the fraction of detected signals determined to be RFI (see color bar) averaged over a month and two polarizations, as reported by the SMAP mission for April, 2015. Associated article: Le Vine, "RFI and Remote Sensing of the Earth from Space."

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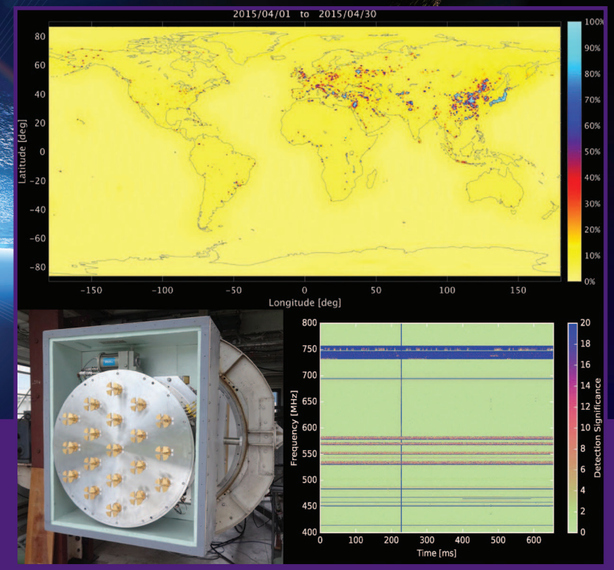

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