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Looking for GRB afterglows and similar transients

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Richard Strom was born and raised in New York City. He earned a B.A. from Tufts University, and M.Sc. and Ph.D. degrees in radio astronomy from the University of Manchester (Jodrell Bank), UK. He retired in 2009 from a senior research astronomy position at ASTRON (the Netherlands Institute for Radio Astronomy) in Dwingeloo.

At the same time he became Professor Emeritus at the University of Amsterdam; he continues to be an Adjunct Professor at James Cook University in Australia, and is now a Senior International Visiting Professor, Chinese Academy of Sciences for a second year. He has also regularly been a Visiting Professor of Physics at the National University of Singapore. Richard is a past Secretary of IAU Commission 40 (Radio Astronomy) and is also a member of Commissions 28, 34 and 41. He chaired one of the review panels for the XMM-Newton Observatory, and has served on time allocation panels for BeppoSAX, the European VLBI Network, the UK Infrared Telescope and the Westerbork Radio Telescope. His research interests include supernova remnants, gamma-ray bursts, large radio galaxies, pulsars, radio polarimetry, new telescopes, Chinese historical records, and the history of radio astronomy, especially in the Netherlands.

Abstract

In less than a decade, Gamma-Ray Bursts (GRBs) have been transformed from an obscure, seemingly insoluble riddle to a hot item of 21st Century astrophysics. In a way this is astonishing: for over a quarter of a century there was practically no progress in the discipline, and what was regarded by many as the probable nature of GRBs ultimately proved to be way off the mark. But as with other similar quandaries (detection of exoplanets being one recent example), after the first few successes the required techniques were refined and honed until detection and follow-up became, if not routine, then at least governed by certain patterns of expectation. (It should be noted that a significant fraction of GRBs, the short bursts [$t < 2$ s], may be a different phenomenon.) I will examine the progress which has been made in detecting and studying radio (where most of my own modest contribution has been) and optical transients, and some of the lessons when looking to the future (and past). I will also suggest in which direction(s) future transient surveys might go, and discuss some of the possible roles for planned new instruments, especially future facilities in China.



All are welcome! Tea, coffee, biscuits will be served at 2:45 P.M.