The growth of Radio Astronomy

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Abstract. I include a few aspects of the early history of radio astronomy from Karl Jansky and Grote Reber to the developments of radio telescopes and aperture synthesis imaging techniques with specific comments on the developments in India. 50 years ago this year quasars were discovered. It is also 50 years since the beginning of radio astronomy in India and the design of the Ooty lunar occultation telescope was triggered by the lunar occultation observation of the first quasar.

Keywords : radio astronomy: Jansky : aperture synthesis : India :quasars : SKA

1. Introduction

Woody Sullivan’s definitive history of radio astronomy pre 1953 provides a comprehensive and insightful study of the emergence of this new branch of astronomy (Sullivan 2009). I will touch on just a few aspects of this history and then follow the developments of radio telescopes and aperture synthesis imaging techniques with specific comments on the early developments in India and the strong links to Australia. This review is limited to developments in continuum radio astronomy at metre and centimetre wavelengths.

In the course of trying to identify the source of interference to trans-Atlantic telephone communications Karl Jansky (1933), working at the Bell Telephone Laboratory, discovered cosmic radio emission. An unexpected source of noise was peaking each day but the peak signal arrived 4 min earlier each day and Jansky realised that it must have extraterrestrial origins. Reaction from Bell Labs was underwhelming and, as Grote Reber later remarked, "so faint not even interesting as a source of radio interference!" Once Jansky had determined that the interference was of extraterrestrial

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