

Development of Radioastronomy – prehistory and the first decade

GUDRUN WOLFSCHMIDT¹

¹Institute for History of Science, Department of Mathematics, Hamburg University, Germany
wolfschmidt@math.uni-hamburg.de

After the discovery of electromagnetic waves by Heinrich Hertz (1857–1894) in 1887, one tried to find cosmic signals or extraterrestrial radio waves since 1896. In the 1930s radio signals from the Milky Way and from the Sun were discovered with a system of antennas or later with reflectors. A parabolic dish was used; in the focal point a vibration was induced in the dipole.

With the German “Würzburg-Riese” (7.5-m-reflector for RADAR – Radio Detection And Ranging) radio astronomy started after WWII; especially in the Netherlands, UK and Australia.

In Germany in the 1950s four centers were built up: Kiel – Albrecht Unsöld (1905–1995) (dipole antenna array and 7.5-m-reflector), Freiburg –Karl-Otto Kiepenheuer (1910–1975) (3-m-reflector and in Weissenau near Ravensburg a solar radiospectrograph), Berlin-Adlershof/GDR – Otto Hachenberg (1911–2001) (36-m-transit telescope) and Potsdam/GDR (several antennas for solar radio astronomy).

Since 1952 Friedrich Becker (1900–1985) started to plan a first large German radio telescope, a 25-m-reflector, Stockert, Eifel (1956). Shortly together with Dwingeloo (25-m-reflector) it was the largest in the world. Very quickly the dimensions of radio telescopes were increased – a development in the direction of Big Science.