

Applications of Radio Telescopes in Deep Space Research

Vishalakshi Singh¹, Atul Kumar Pandey*², Rajesh Kumar Verma³

Assistant Professor, Department of Physics^{1,2,3}

D. D. U. Government P. G. College Saidabad Prayagraj, Uttar Pradesh, India¹

Government Degree College, Sehmo Basti, Uttar Pradesh, India²

K. S. Saket PG College Ayodhya, Uttar Pradesh, India³

singhvishalakshi15@gmail.com,

*Correspondence: atulkumarpandey78@gmail.com

iitr.rajesh@gmail.com

Abstract: *Radio telescopes have been among the strongest tools for astronomers trying to figure out the universe's fine structure and how it all fits together for quite a while. The radio telescope has made substantial progress in recent years by producing an image of a black hole. This review examines how radio telescopes have been used to study deep space across a range of methods. Highlights include the Event Horizon Telescope teamwork; advances made in pulsar timing arrays; further progress made on very long baseline interferometry (VLBI); current contributions made by FAST and the VLA; and how radio astronomy has been used to study the cosmic microwave background. Overall, these advancements emphasise both the importance of and the continuing growth of radio astronomy to contemporary astrophysics as a tool for astronomers.*

Keywords: *Radio telescopes*