Abstracts

Design Philosophy and Technology Aspects of Submillimeter Wavelength Radio Telescopes

J.W.M. Baars. "Design Philosophy and Technology Aspects of Submillimeter Wavelength Radio Telescopes." 1992 MTT-S International Microwave Symposium Digest 92.3 (1992 Vol. III [MWSYM]): 1251-1254.

Telescopes for wavelengths between 0.3 and 1 mm need a reflector surface accuracy of better than 25 m anfi a pointing precision of <1" under operational conditions. It is essential to control gravitational and thermal deformations to very small values. These can be achieved by the use of carbon fiber reinforced plastic materials and multi-parameter structural optimization. This is illustrated by the design of the 10-m Submillimeter Telescope (SMT) of the MPIfR ard Steward Observatory. We also discuss shortly the characteristics of present day receivers for these wavelengths. SIS-diode technology can now be applied to frequencies of about 500 GHz.

❑ Return to main document.