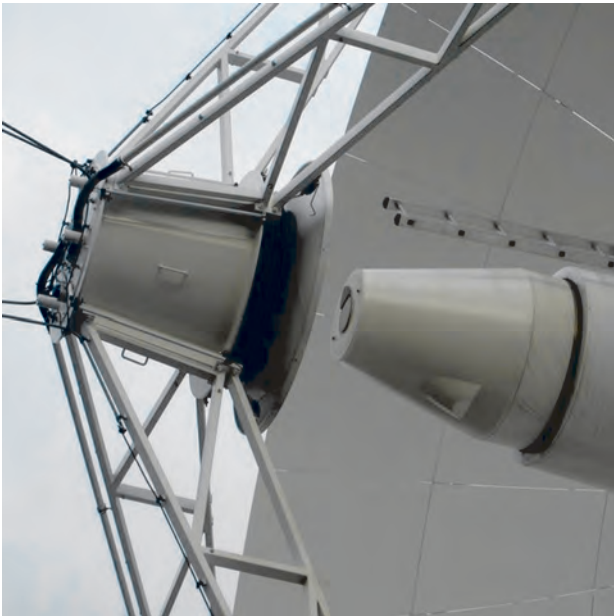
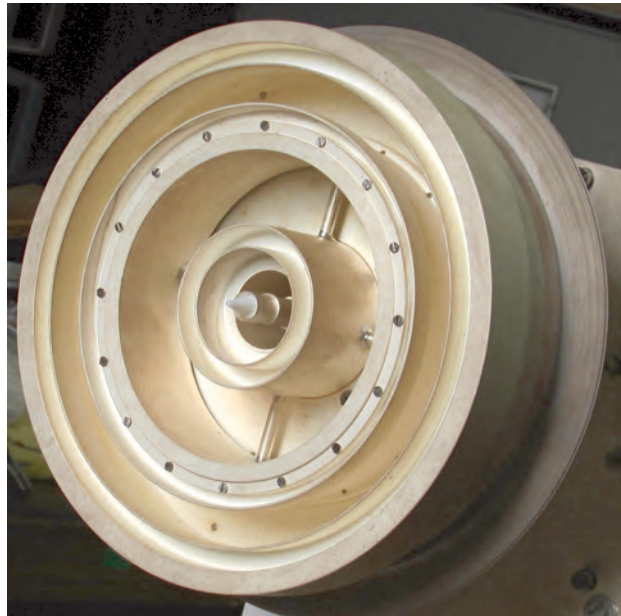


MULTIFREQUENCY REFLECTOR FEED FOR CRYOGENIC RECEIVING FOCAL UNITS OF RADIO TELESCOPES



Reflector feed



Aperture node

Areas of Application

Irradiation of VLBI2010-compatible radio telescope reflector antennas

Specification

Beam pattern width at operating circular polarization of -16 dB is $130^\circ \pm 5^\circ$; beam pattern level at cross circular polarization does not exceed -22 dB with respect to the beam pattern level at operating polarization along the feed axis; phase deviation of integrated beam pattern in the sector $\pm 65^\circ$ with respect to feed phase center does not exceed 20° ; return loss does not exceed 20 dB

Stage of Development. Suggestions for Commercialization

IRL5, TRL5
Manufacture of device and equipment of radio telescopes, upon request

Advantages

Unlike the analogs in CIS countries, this device employs a new configuration of the S-band feed, which provides desired operating frequency range and beam pattern width in the S-band; uses a multilayer infrared filter and a vacuum window specially designed to provide a desired low level of return loss in the three S/X/Ka bands of the feed; uses a ring that absorbs radiation, which addresses the problem of raising cross radiation in the Ka band

IPR Protection

IPR1

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