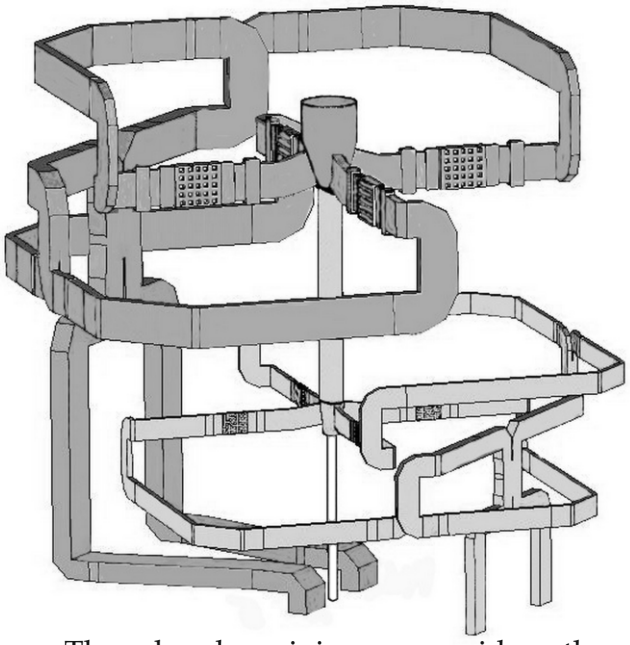
THREE-BAND RECEIVING C/X/K-BAND WAVEGUIDE SYSTEM



Three-band receiving waveguide path

Areas of Application

The waveguide system of signals separation in a radio telescope in three frequency bands to channels of the left and right circular polarization is designed by order of NCUVKZ of the State Space Agency of Ukraine.

Advantages

Creating a combined three-band waveguide system will allow the simultaneous receiving of signals with circular polarizations in three frequency bands in contrast to existing receiving systems operating in one or two bands.

Stage of Development

IRL6, TRL5

IPR Protection

IPR1

Specification

Relative operating frequency bands:
for C band up to 35%,
for X band up to 27%,
for K band up to 23%.

Relative distance between operating frequency bands: not less than 35%.

Isolation between the circular polarization outputs
for C-band, not less than 20 dB,
for X-band, not less than 20 dB,
for K-band not less than 18 dB.

Insertion loss in the circular polarization separators for room temperatures
for C-band is not more than 0.25 dB,
for X-band is not more than 0.35 dB,
for K-band is not more than 0.4 dB.

Reflection coefficient from the circular polarization outputs
for C-band is no more than -15 dB,
for X-band – no more than -12 dB,
for K-band – no more than -15 dB.

Contacts

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