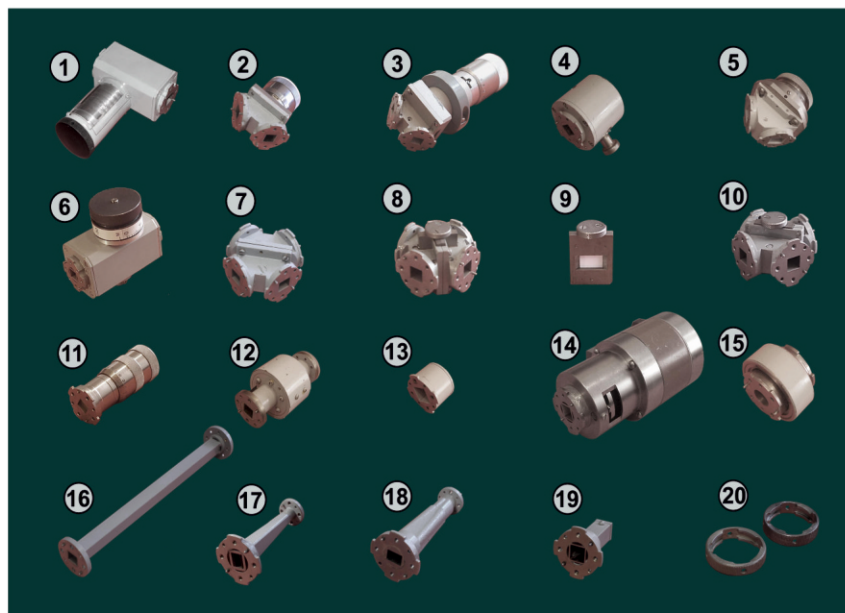


QUASI-OPTICAL RADIO MEASURING DEVICES OF MM AND SUBMM WAVE BAND ON THE BASIS OF A SQUARE METAL-DIELECTRIC WAVEGUIDES



Some elements of the set are shown on the photo: 1- attenuator; 2- angled bend- phase shifter; 3- resonance wavemeter; 4- linear polarizer; 5- polarization converter; 6- direct reading polarization attenuator; 7- polarization beam splitter; 8- beam commutator; 9- renewable cassette; 10- beam splitter; 11- movable reflector; 12- isolator; 13- reflector; 14- modulator; 15- rotary joint; 16- MDW section; 17, 18- MDW exciter (adapter); 19- nonreflecting absorbing termination ; 20- clamps

Areas of Application

A set of quasi-optical elements in 0,7...3 mm wavelength band is suggested for the design of radio measuring schemes available.

Stage of Development

IRL7, TRL8.

The manufacturing, delivering, warranty and training services are included.

Advantages

The set has no analogues in Ukraine and abroad.

Specification

The devices are built on the basis of square metal-dielectric waveguides (MDW). The operating mode is LM_{11} which is characterized by the near-plane phase front, linear polarization and amplitude distribution whose maximum is on the waveguide axis and smoothly falls as a waveguide wall is approached. The application of dielectric layers over MDW opposite walls provides attenuation 0.3dB/m of the linearly polarized wave. When the all walls of MDW is coated by the dielectric layer the any wave polarization is possible, and attenuation is no worse than 0.5 dB/m.

IPR Protection

IPR1, IPR2, IPR3

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