

Stability study of metrological characteristics of primary power transducers in waveguides

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The results of studies of metrological characteristics of primary power transducers of electromagnetic oscillations in waveguides, which have been in operation for more than 20 years, are presented. It is shown that when thermistor primary transducers are designed and later used as part of the latest samples of measuring technology, the stability of the calibration coefficient is preserved for 4 years.

Keywords: Microwave band, waveguide, reference power meter.

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REFERENCES

1. Bilko M. I. and Tomashevskiy A. K., *Izmerenie moshnosti na SHF*, Moscow, Radio i svyaz, 1986.
2. Internet resource: <http://www.electrosad.ru/Electronics/termSpr.htm>
3. Matveev A. I., *Metrologia v XXI veke*, Mendeleevo, 2018, pp. 207–208.
4. Kleymenov Yu. A. and Zakutin A. A., *Vozdushno-kosmicheskie sili. Teoria i praktika*, № 16, 203–211 (2020).
5. Kagirina K. A. et al., *Microelectronika* 2017. V. 46. №. 3. P. 164-169 (2017).
6. Matveev A. I., *Izmeritel'naya tekhnika*, № 1, 58–61 (2022).
7. Petuhova N. A. and Gatchin Yu. A., *Uspehi sovremennoy nauki i obrazovaniya* 2 (11), 146–151 (2016).
8. Burak I. F., Gusinskiy A. V. and Sharov G. A., *Izmerenie moshnosti SHF v diapazone santimetrov i millimetrov voln*, Moscow, Goryachaya liniya – Telekom, 2018.
9. Ventcel E. S., *Teoria veroyatnostey*, Moscow, Fizmatgiz, 1976.