DEVICE FOR IRRADIATING LARGE PARABOLIC-REFLECTOR ANTENNAE

by

E.A. Dudkovskiy

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HUMAN TRANSLATION

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TRANSLATION DIVISION
FOREIGN TECHNOLOGY DIVISION
WPAFB, OHIO

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*ye initially, after vowels, and after і, І, І; е elsewhere.
When written as в in Russian, transliterate as ye or Є.

RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

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GRAPHICS DISCLAIMER

All figures, graphics, tables, equations, etc. merged into this translation were extracted from the best quality copy available.
We know about devices for irradiating large parabolic-reflector antennae.

The described device is different from the known devices because the parabolic reflector used in it is cofocal with the basic mirror, which is irradiated by a cophasal emitter grid with a uniform amplitude distribution. This makes it possible to obtain the maximum utilization factor of the mirror opening cross section.

The figure shows a schematic diagram of the device for irradiating large parabolic aerials.

Parabolic reflector 1 is the emitter; like basic mirror 2, it is mounted so that its focus 3 coincides with that of the basic mirror. The reflector 1 irradiates the in-phase emitter grid 4 with a uniform amplitude distribution installed several meters from the reflector. If the dimensions of the grid and the reflector equal several dozen waves and the distance between them does not exceed 3-4 grid dimensions, almost all the irradiated energy except for a few percents falls on the reflector, creating a nearly uniform current distribution in it.
Patent Claim

A device for irradiating large parabolic-reflector antennae that is different because in order to obtain the maximum utilization factor of the mirror opening cross section, it has a parabolic reflector that is cofocal with the basic mirror, which is irradiated by an in-phase emitter grid with a uniform amplitude distribution.

Figure.
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