DISTRIBUTION CIRCUIT FOR A MULTI-BEAM SOURCE

Innovative circuit ensuring better generation of multiple beams by source sharing

Technological benefits

Sources in close proximity
Interweaving of sources: reduced meshing, low orthogonality constraints
Reduction in the number of reflectors required or improved performance for the same coverage in relation to 1 source – 1 spot solutions

2.5 D structure
Sandwich of aluminium parts
Focal network is easy to machine and assemble

Performance compatible with Ka band telecoms
Power stability when transmitting
Linear or circular polarisation
10% of passband

Modular architecture
Simplified adjustment of amplitude and phase

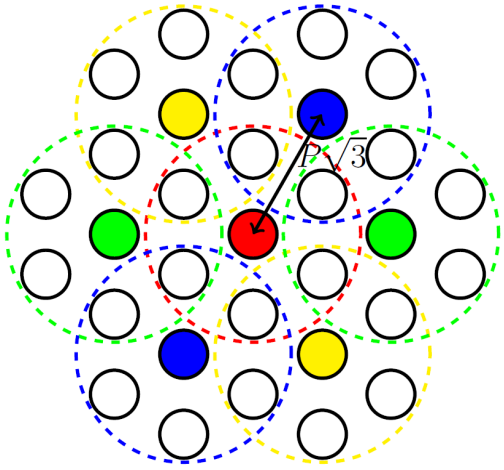
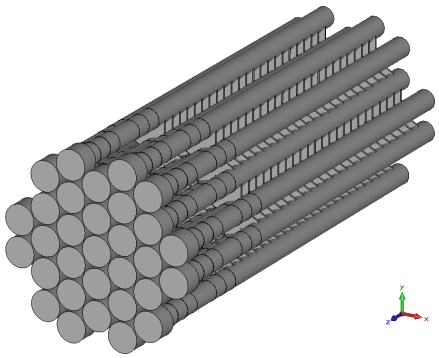


Diagram for reusing sources in the adjacent septets



CAD of the multi-beam source

Invention overview

Distribution circuit made up of access guides and peripheral guides, which are paired using a series of radial coupling slots.
The septets of radiating elements produce two adjacent beams with overlap zones, thus improving performance.

Potential applications

Multi-beam satellite communications
For fixed or mobile service

TRL : 3

Patented invention, available under license

Commercial benefits

Low manufacturing costs
Easy to produce
Simplified adjustments

Possible reduction in the number of antennas
In relation to 1 source – 1 spot solutions

B1108

For further information

CNES Valorisation :
+33 (0) 5 61 27 35 53
valorisation@cnes.fr