ANTENNA ARRAY SYSTEM FOR EMITTING ELECTROMAGNETIC BEAMS

Digital Beamforming Network

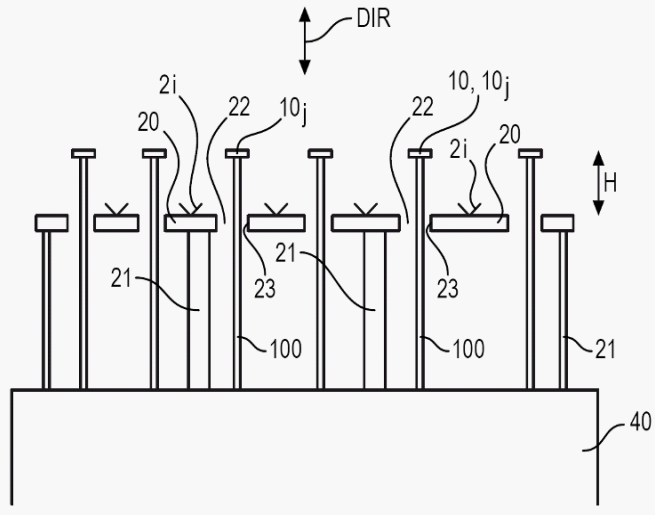
Potential applications

Large antennas

Ground and onboard antennas including radiating elements

Summary of the invention

The invention concerns a large antenna transmitting and/or receiving system with a beamforming network. The signals coming from and/or arriving at each of the elements are weighted by excitation coefficients that are numerically determined by a computer.



Antenna network consisting of radiating elements (2i) and its sensors (10j)

Technological advantages

Controlling system characteristics

Real-time control of each of the radiating elements of the antenna and hence of its far-field radiation diagram.

Real-time control of the network's illumination law.

Compensation for network deformation

The real-time control of the system characteristics makes it possible to compensate for the deterioration in performance in case of distortion or failure of one or more network elements.

Enables the use of flexible structures for supporting the network antenna.

Commercial benefits

Lower costs

The system is less cumbersome to implement since it is possible to compensate for network deformation.

Removes many mechanical constraints and allows the use of flexible structures.

TRL : ?

CNES/SATIMO patented invention, available under licence

For further information

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