



ANTENNA POINTING SYSTEM FOR SPREAD SPECTRUM SIGNALS

Innovative estimation and depointing process using spread spectrum signals and an accompanying system

Technological advantages

No scanning loop

Convergence of depointing value in first iteration, with option of refining the results later on

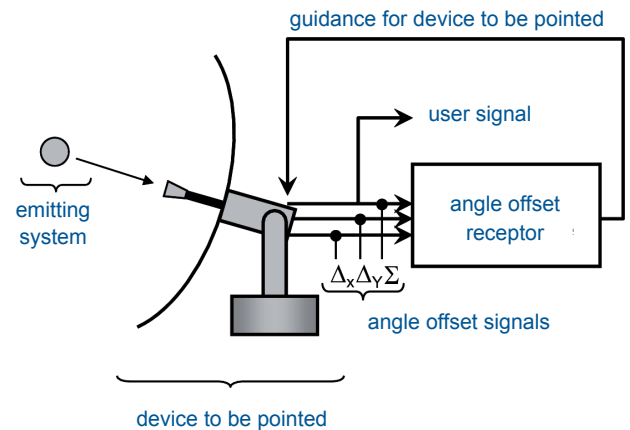
A simple and efficient system

Signal despreading is not necessary for calculating the depointing, unlike coherent angle offset measurement systems normally used

Easy to implement

Better performance levels than a non-coherent system

Better tracking capabilities



Angular offset tracking receiver, integrated in tracking chain

Overview of invention

Angular offset tracking receiver for spread spectrum signals via digital signal processing.

The radio frequency signal to which the antenna must be pointed is a modulated spread spectrum signal.

The present system enables highly-refined pointing, using an antenna equipped with an angle offset measurement system.

Potential applications

Space:

Satellite monitoring from ground stations (with possibility of distinguishing between emitting systems during training flights based on their spreading code)

Pointing of on-board antennas to ground-based emitting systems (fixed and mobile) in the spread spectrum

Civil and military drones:

Pointable antenna on board drone or in-flight relay station, or on ground

Commercial benefits

Reliable process based on simple design

Processing with software following digitisation of signal

Simple architecture

Better performance levels than traditional non-coherent systems

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Invention developed by CNES