

Title (en)

TECHNIQUES FOR REDUCING QUANTIZATION ERRORS IN ELECTRONICALLY STEERABLE ANTENNA

Title (de)

TECHNIKEN ZUR REDUZIERUNG VON QUANTISIERUNGSFEHLERN IN ELEKTRONISCH STEUERBAREN ANTENNEN

Title (fr)

TECHNIQUES DE RÉDUCTION D'ERREURS DE QUANTIFICATION DANS UNE ANTENNE ORIENTABLE ÉLECTRONIQUEMENT

Publication

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Application

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- IL 2019051258 W 20191118

Abstract (en)

[origin: WO2020105040A1] Beamforming techniques, and corresponding implementations, are disclosed, wherein digital data adapted by a beamforming process for transmission by a plurality of transmit channels of a ESA system is manipulated by a respective plurality of delta- sigma modulation processes for causing different modifications of at least a portion of the adapted digital data in each of the plurality of transmit channels. This way, variance can be introduced between signals transmitted by the transmit channels. The manipulated data of each transmit channel can be then converted into a corresponding analog domain signal for transmission thereof via the respective antenna element. The different modification obtained by manipulating the adapted digital data by the delta- sigma modulation processes can be configured to cause a reduction in the average correlation between the quantization noise signals transmitted from the respective antenna elements after the conversion into the analog domain, so that out of band quantization noise and errors can be substantially reduced at a receiver of the transmitted signals.

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