

Elektrotechnik-Elektronik-Informationstechnik

EEI KOLLOQUIUM

Aspects of Compressed Sensing Applied to Radar

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Cauerstraße 9, Raum 5.14

Diskussionsleitung: Prof. Dr.-Ing. L.P. Schmidt

Compressed Sensing (CS) techniques represent a mathematical framework for the detection and allocation of sparse signals with a reduction of the actually required number of spatial or temporal samples.

Nowadays modern radar systems use high bandwidth, which is linked to high sample rates to fulfill the Shannon-Nyquist theorem condition, and a large number of single elements for phased-array antennas.

Often a 'sparse' scene can be assumed, i.e. only a limited number of targets or scattering centers. In this case, CS could be a good way to reduce data size, complexity, weight, power consumption, and cost of radar systems.

In this presentation, we will address some CS-techniques for different radar tasks and discuss their applicability, advantages and disadvantages.