UNIVERSITY ERLANGEN-NÜRNBERG (FAU)

CANCELLATION OF DME INTERFERENCE INTO PMSE

(Update May 24th 2019)

FAU University Erlangen-Nürnberg studied methods for improving compatibility of PMSE operation with "Airband" (960-1164 MHz) applications. For that purpose an advanced receiver concept is developed that conducts interference cancelation for DME (Distance Measurement Equipment) signals.

Two main ideas were studied.

First a blanking scheme is studied that blanks the PMSE received symbols during occurrence of DME pulses.

During blanking softbit information will carry 50:50 chance for “1” versus “0”. Bundling errors are broken up by deinterleaving. As a result this will lead to improved softbit quality entering channel decoder, which runs sequence estimation.

With the second interference cancelation scheme FAU tries to reconstruct the DME signals and subtracting it from the received PMSE symbols.

It is expected that the second scheme will deliver higher robustness, however it requires careful estimation of phase and frequency offset of DME signal.

M.Sc. Florian Irnstorfer, Student of FAU, presented the output of his Master Thesis:

Advanced Receiver Design for Cancellation of DME Interference into PMSE [3.073 KB]

Detailed information can be found in this document:

Master Thesis of M. Sc. Florian Irnstorfer [6.239 KB]

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