



HIGHLIGHTS OF UWB IMPULSE BEAMFORMING (ThuPmOR12)

✳ Author(s) :

[Sigmar Ries](#)

(Fachhochschule Südwestfalen, Germany)

✳ Abstract :

In this paper, general results for ideal UWB (Ultrawideband) impulse beampattern are given. It can be easily shown that the mainlobe width is similar to the narrowband case. In contrast, the absence of grating lobes and the appearance of a fixed sidelobe level dependent only on the number of antennas and not on their spacing is a beneficial property. A further unusual fact is that unequal prefiltering or weighting of the array antennas leads to an increase of the sidelobe level. Numerical simulations validate these unfamiliar results. In conclusion, the design of UWB arrays needs special attention.

[Menu](#)