

Imaging Beyond Consumer Cameras – Proseminar (911.422)

Exercise sheet D

3D Sensors – Pulse Modulation

Exercise 1.

4 P.

Consider the following two double short time integration (DSTI) schemes, illustrated in Figs. 1 and 2.

Formulate the **measurement expressions** x_i for Variant A and B and then the *distance expression(s)* with respect to these measurements (see lecture). Variant A and B are equally weighted in terms of points (2+2). Here, ToF is the Time-of-Flight, T_p is the pulse time, B is the background measurement (offset) and A is the amplitude.

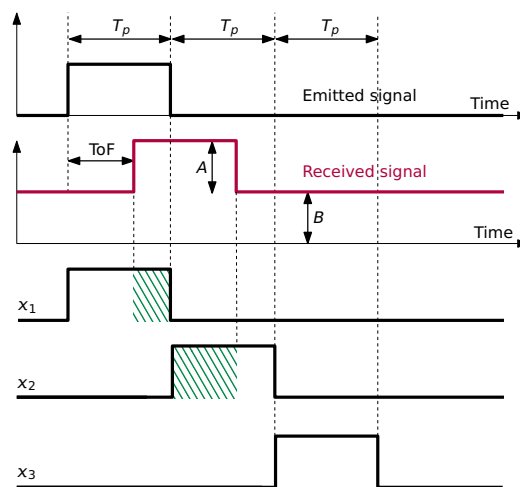


Figure 1: Variant A

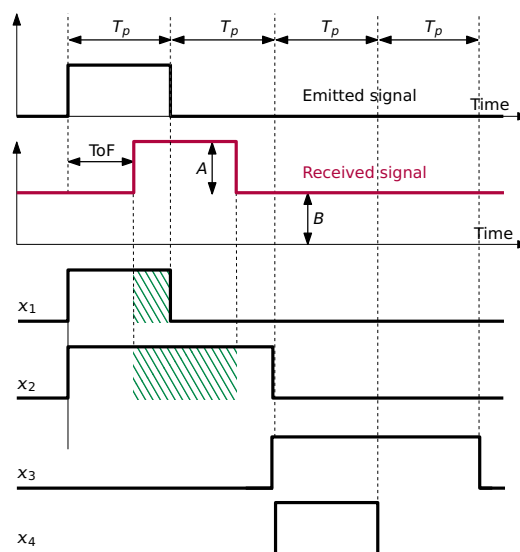


Figure 2: Variant B