Exercise 4:

Aim: Showing the limited maximum range if you use a short transmitter's pulse width

Procedure: Connect the parabolic antenna to the Didactical Primary Radar; be sure that the Power line and the USB-line are connected and start the program Didactical Primary Radar. The Antenna should be orientated through the window using a slightly decreased tilt (downwards: 7…10 Degrees).

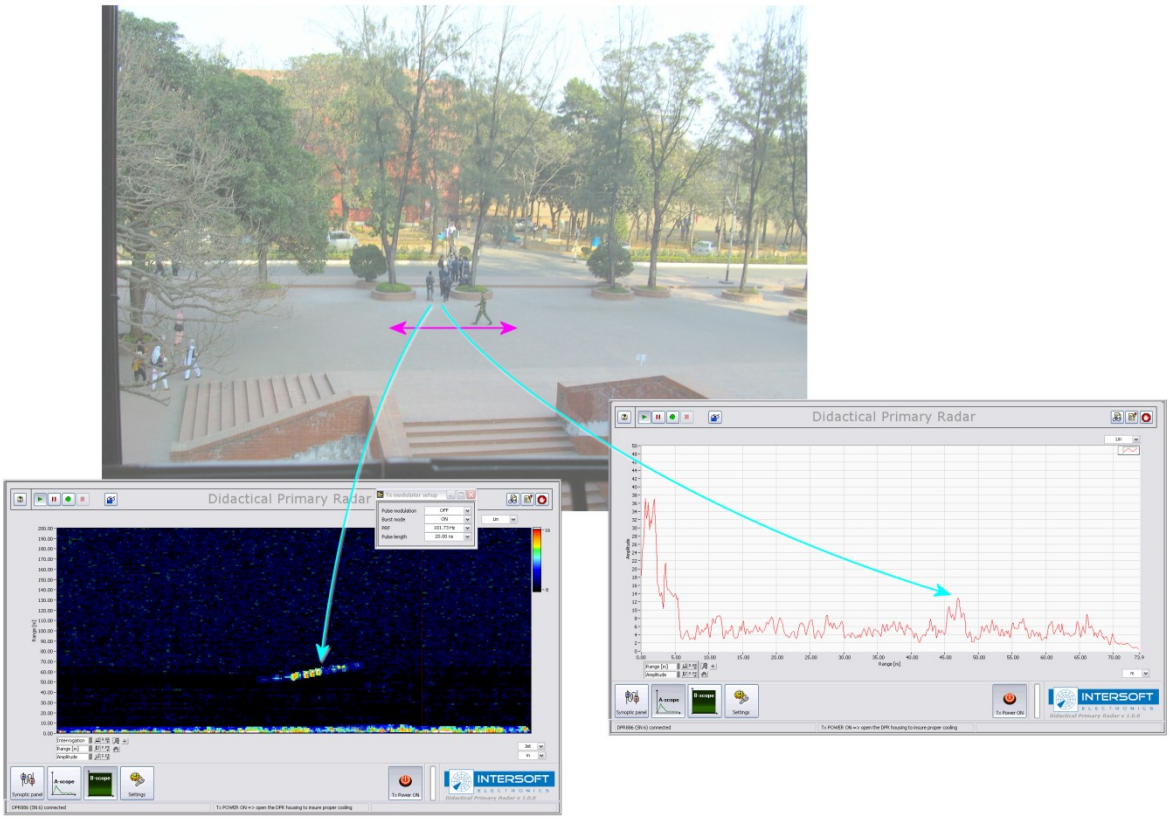
Settings: (in Modulator Setup):	Pulse modulation:	Off
	PRF:	101.73 Hz
	Pulse length:	20 ns
(in Processor Setup):	MTI:	On
	Doppler:	On
	Doppler Bins 0…7:	On (all)

All other settings in the Synoptic panel may be in default position.

Switch the Transmitter Power ON.

Set the threshold level (black color) and the clipping level (white color) of the B-scope according the measured voltages in A-scope. Adjust the range scale from zero to 200 meters.

Observe the pedestrians on the place between the stairs and the street. Please try to detect walking pedestrians on the other side of the street too. Why this will have little success?



You can try to set some parameters to increase the transmitted energy: to transmit longer pulses; still without using the intra-pulse modulation/pulse compression. This results in every case a new configuration of the parameters of the B-scope and in the needed receiver's band width.

Why you cannot see the perpendicular the main beam crossing pedestrians?