

8-Bank Polarimeter

There are two 8-bank polarimeters available at Effelsberg; one for the 18/21cm-receiver (alternatively, it could be connected to the 21cm-7Beam system, both are prime focus systems), the other for the 11cm-receiver (located in the secondary focus). These can be used to split the full IF band into eight subbands and investigate the polarization properties of the signal seperately (eg., for Rotation Measure studies).



Besides the eight subbands, there is also a polarimeter for a larger bandwidth. As each polarimeter has four outputs, there are 36 channels in total.

For the data analysis the standard procedures can be applied – they just have to be repeated 9 times!

The table below summarizes the frequency distribution and channel assignment of the subbands for the 18/21cm- and the 11cm-receivers.

18/21cm receiver			11cm receiver	
Center frequency 1400/1666 MHz			Center frequency 2639.5 MHz	
Frequency of sub band	Channels	Output	Frequency of sub band	
1386 ± 2 MHz / 1652 ± 2 MHz	1	TP A	2604.5 ± 5 MHz	
	2	TP B		
	3	cos A/B		
	4	sin A/B		
1390 ± 2 MHz / 1656 ± 2 MHz	5-8		2614.5 ± 5 MHz	
1394 ± 2 MHz / 1660 ± 2 MHz	9-11		2624.5 ± 5 MHz	
1398 ± 2 MHz / 1664 ± 2 MHz	12-15		2634.5 ± 5 MHz	
1402 ± 2 MHz / 1668 ± 2 MHz	16-20		2644.5 ± 5 MHz	
1406 ± 2 MHz / 1672 ± 2 MHz	21-24		2654.5 ± 5 MHz	
1410 ± 2 MHz / 1676 ± 2 MHz	25-28		2664.5 ± 5 MHz	
1414 ± 2 MHz / 1680 ± 2 MHz	29-32		2674.5 ± 5 MHz	
Full band (beware of RFI!)			Full band	
1400 ± 50 MHz /1666 ± 50 MHz	33-36		2639.5 ± 40 MHz	

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