

## Seaford Directional Waverider Buoy

### Location

OS: 546444E 98366N  
 WGS84: Latitude: 50° 45.98' N Longitude: 000° 04.51' E

### Water Depth

Approx. 13m CD

### Instrument Type

Datawell Directional Waverider Buoy Mk III

### Data Quality

C1 (%)	Sample interval
99	30 minutes

### Monthly Means

All times GMT

Month	H <sub>s</sub>	T <sub>p</sub>	T <sub>z</sub>	Direction	SST	No. of days
	(m)	(s)	(s)	(°)	(°C)	
January	0.63	7.5	4.1	202	6.6	31
February	0.79	7.5	4.3	206	5.8	28
March	0.62	6.2	3.7	200	6.1	31
April	0.49	5.9	3.7	192	8.8	30
May	0.36	6.7	3.6	202	11.3	31
June	0.32	7.0	3.6	201	14.7	30
July	0.60	5.4	3.6	237	18.0	31
August	0.73	5.1	3.6	231	18.6	31
September	0.66	6.7	3.6	218	17.0	30
October	0.83	6.1	3.9	197	14.6	31
November	0.95	6.6	4.1	202	11.7	28
December	0.56	6.1	3.8	196	6.2	31

Tables and plots of these values, together with the minimum and maximum values and the standard deviation are available on the website.

Highest storm events in 2010									
Date/Time	H <sub>s</sub>	T <sub>p</sub>	T <sub>z</sub>	Dir.	Water level elevation* (OD)	Tidal stage (hours re. HW)	Tidal range (m)	Tidal surge* (m)	Max. surge* (m)
11-Nov-2010 13:00	4.82	8.3	7.5	211	2.23	HW -1	4.15	0.16	0.38
08-Nov-2010 12:30	4.21	8.3	6.5	179	3.34	HW	5.85	0.04	0.32
04-Dec-2010 07:00	4.06	8.3	6.3	211	0.70	HW -2	5.08	0.04	0.20
31-Mar-2010 08:00	4.03	7.7	6.3	229	-1.24	HW -4	6.20	0.37	0.47

\* Tidal information is obtained from the nearest recording tide gauge (the National Network gauge at Newhaven). The surge shown is the residual at the time of the highest H<sub>s</sub>. The maximum tidal surge is the largest positive surge during the storm event.

Year	Annual $H_s$ exceedance* (m)						Annual Maximum $H_s$ (m)	
	0.05%	0.5%	1%	2%	5%	10%	Date	$A_{max}$
2008	4.30	3.54	3.17	2.80	2.31	1.81	10-Mar-2008 08:00	4.83
2009	3.98	3.29	3.01	2.73	2.23	1.80	14-Nov-2009 14:30	5.31
2010	4.17	2.95	2.63	2.25	1.71	1.33	11-Nov-2010 13:00	4.82

\* i.e. 5 % of the measured  $H_s$  values in 2008 exceeded 2.31m

### Distribution plots

The distribution of wave parameters are shown in the accompanying graphs of:

- Percentage of occurrence of  $H_s$ ,  $T_p$ ,  $T_z$  and Direction for 2010
- Percentage wave height exceedance (all recorded years)
- Joint distribution of all parameters for 2010, given both as number of observations and as percentage of occurrence
- Cumulative joint distribution of parameters from start of records (percentage of occurrence only)
- Wave roses (Direction vs.  $H_s$  and vs.  $T_p$ ) for all measured data
- Incidence of storms during 2010 and for all previous years. Storms are defined using the Peaks-over-Threshold method. The highest  $H_s$  of each storm is shown.
- Annual time series of  $H_s$  (red line is storm threshold)

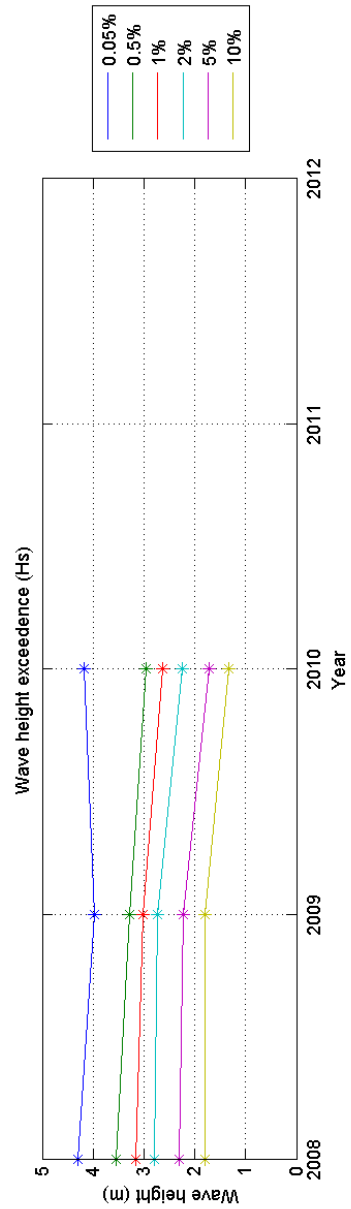
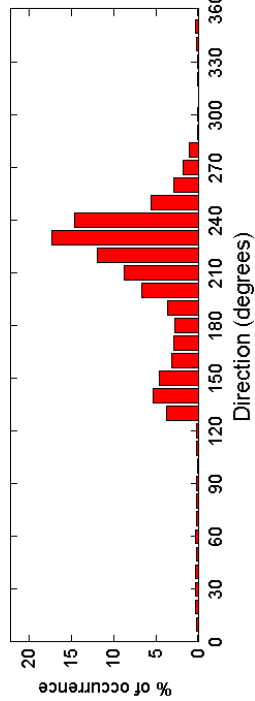
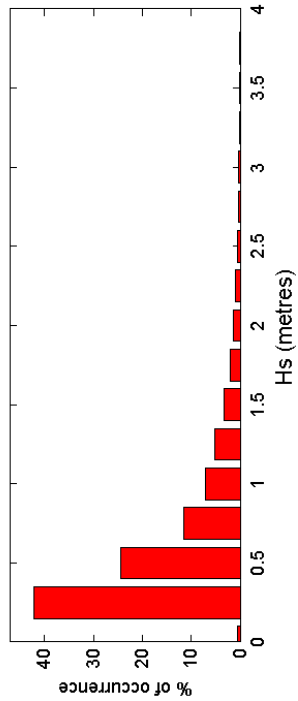
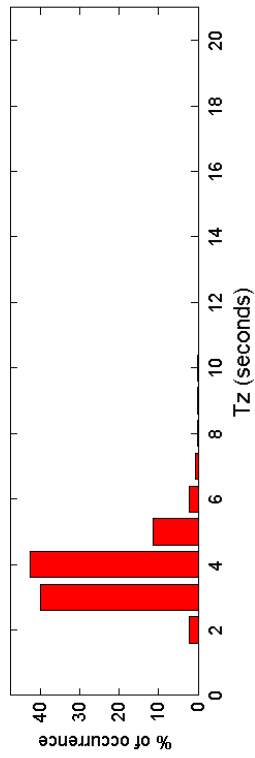
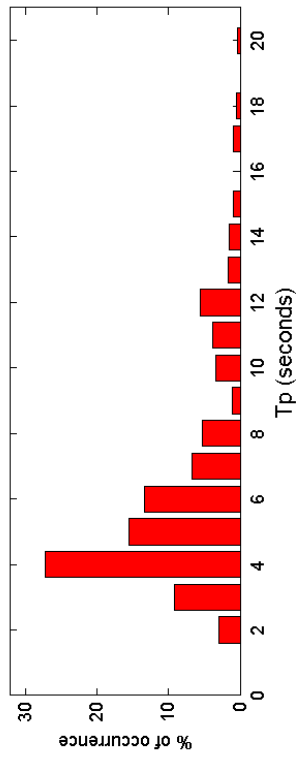
### General

The buoy was deployed on 22 January 2008.

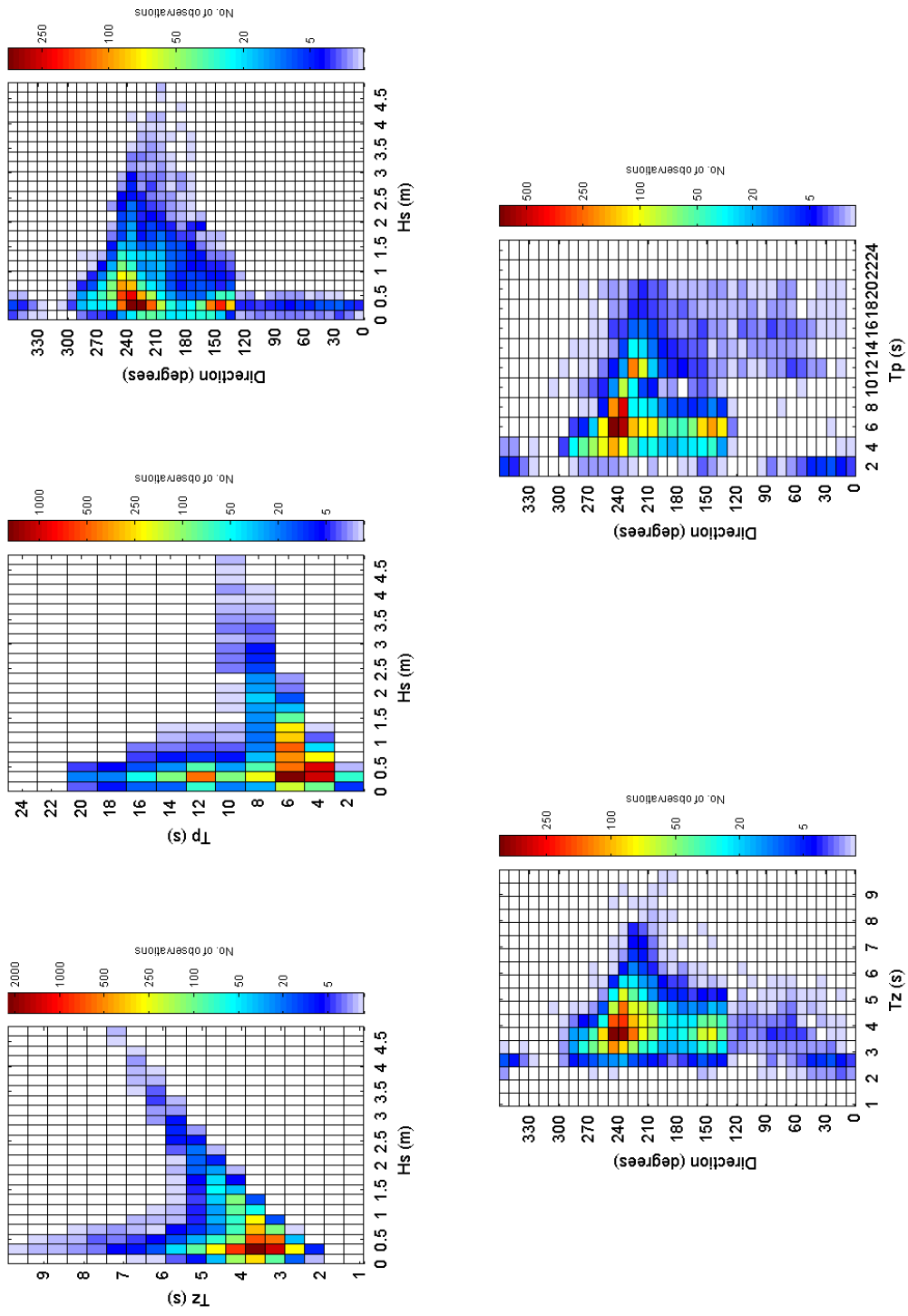
### Acknowledgements

Tidal data were supplied by the British Oceanographic Data Centre as part of the function of the National Tidal and Sea Level Facility, hosted by the Proudman Oceanographic Laboratory and funded by DEFRA and the Natural Environment Research Council. The shore station is kindly hosted by Newhaven Fort.

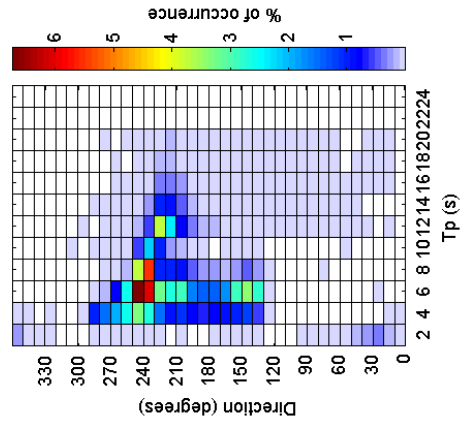
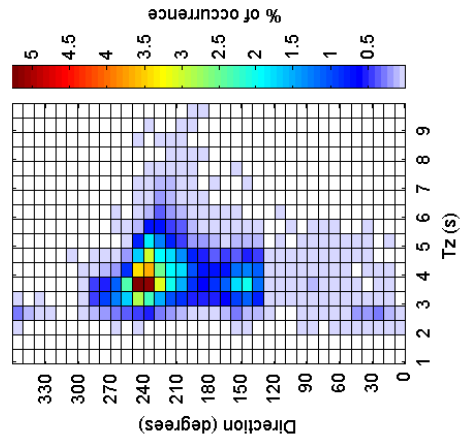
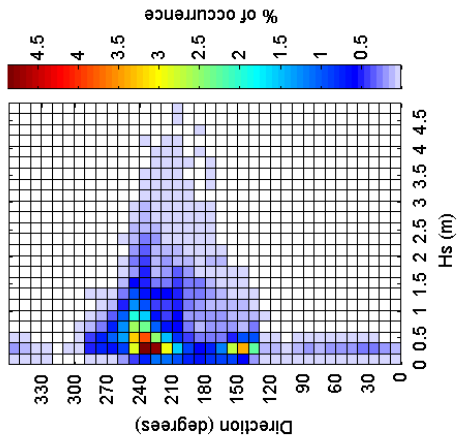
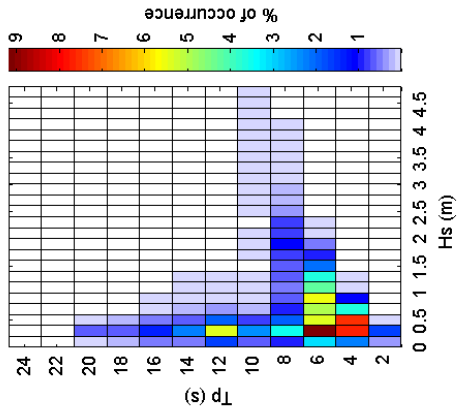
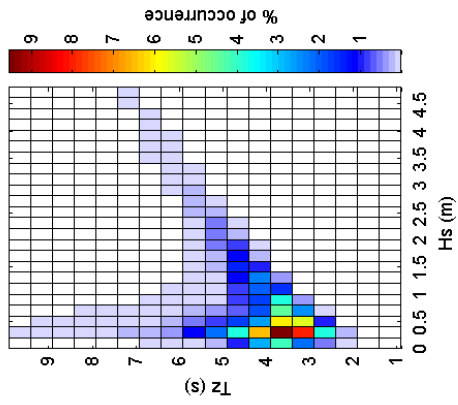
Seaford 2010



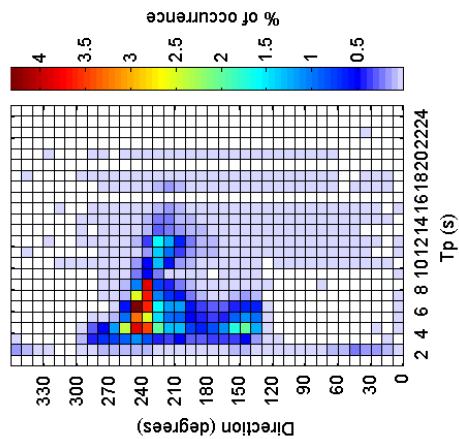
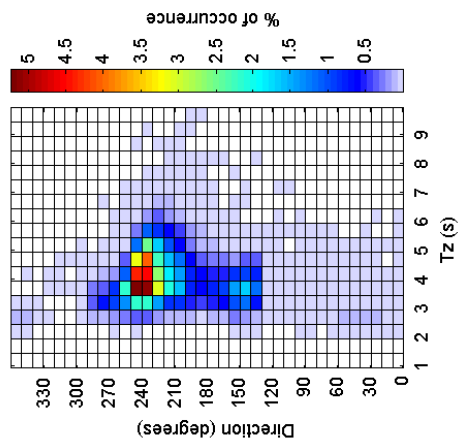
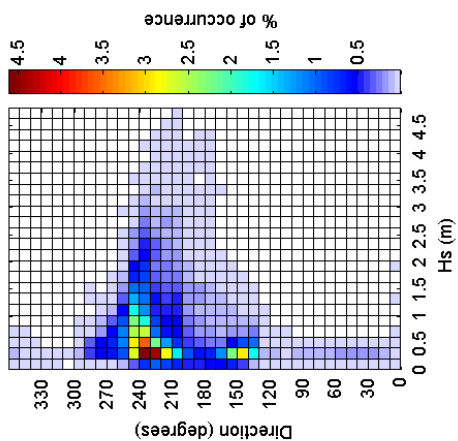
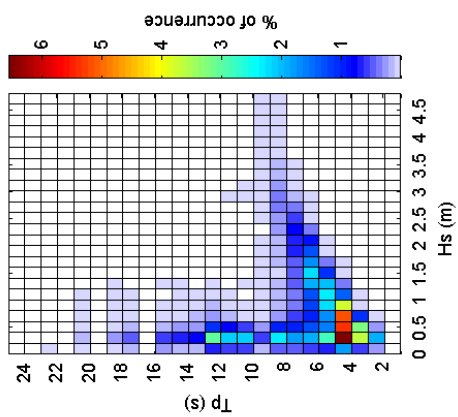
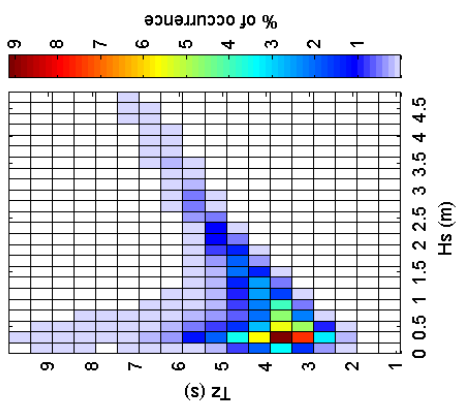
Seaford 2010 - Joint distribution

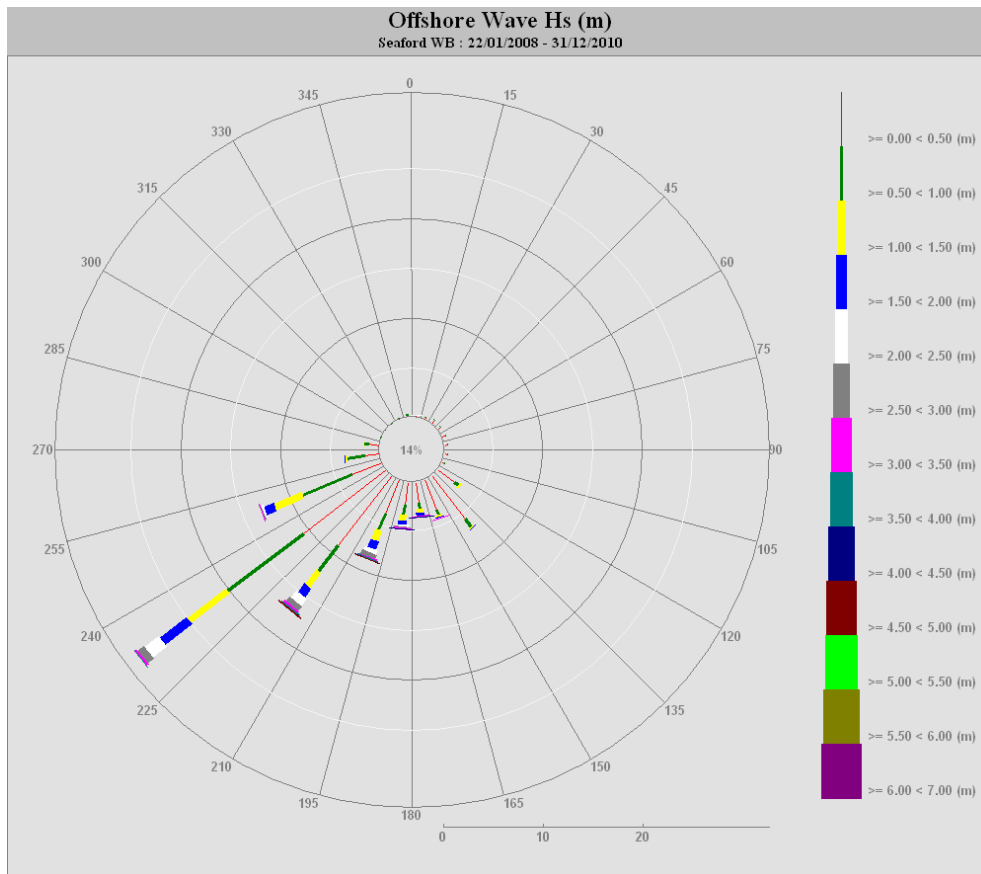


Seaford 2010 - Joint distribution (% of occurrence)

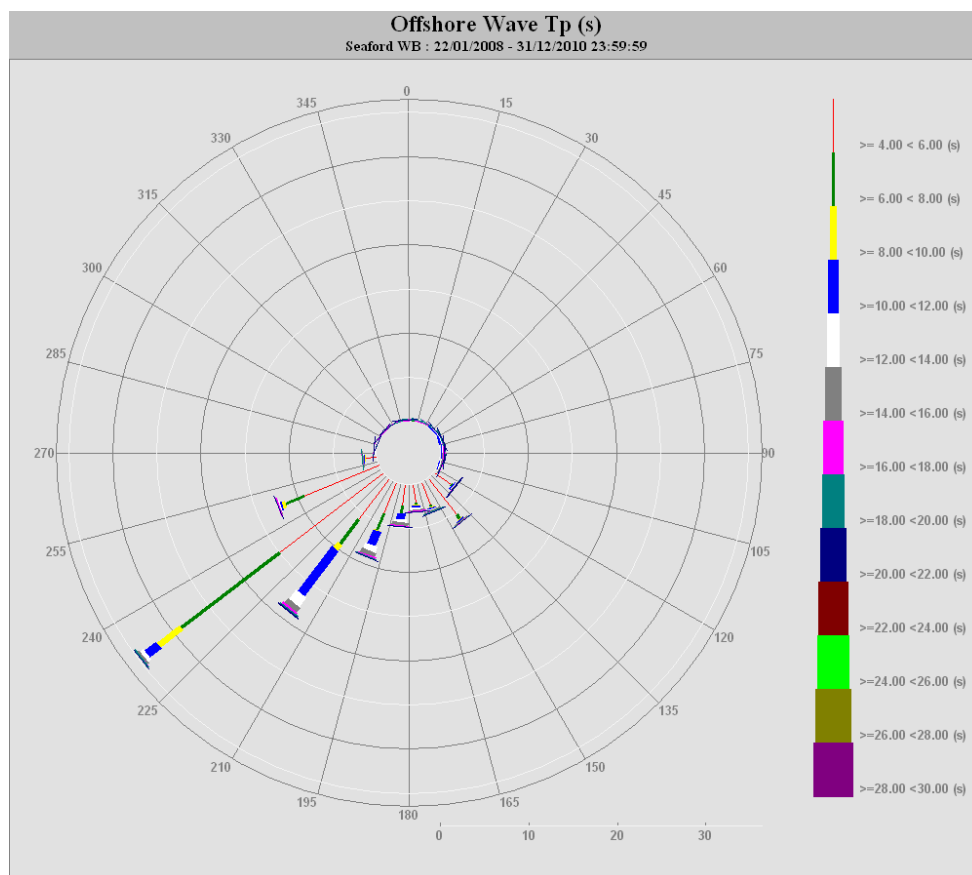


Seaford 2008 to 2010 - Joint distribution (% of occurrence)





Direction vs.  $H_s$  (all measured data)



Direction vs.  $T_p$  (all measured data)

