

I08 CTD-Chipod Notes

Andy Pickering

June 14, 2016

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1 About

Notes on processing and analysis of CTD-chipod data collected during I08 cruise..

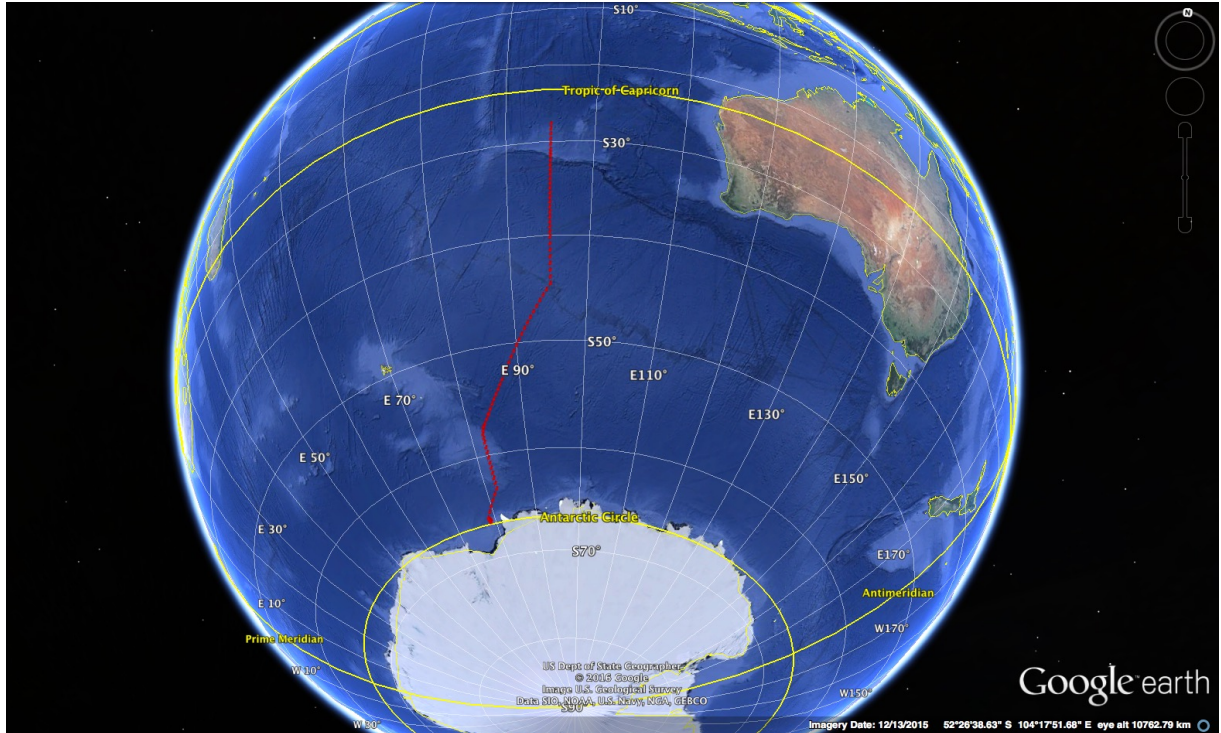


Figure 1: Map of CTD cast locations during I08 cruise.

2 Data and Processing Outline

Data paths are set w/ :

- Load_chipod_paths_I08.m

Chipod deployment info is given in

- Chipod_Deploy_Info_I08

2.1 CTD

Raw (hex) CTD data are processed with:

- Process_CTD_hex_I08.m

2.2 Chipod

Raw chipod files are plotted with

- `PlotChipodDataRaw_I08.m`

to check for obvious issues/malfunctions with any of the instruments; these plots are saved in `/Figures/chipodraw/`. Files with obviously bad or missing data (based on above raw plots) are noted in `bad_file_list_I08.m` and, which will prevent them from being loaded in the processing.

Processing scripts are:

- `MakeCasts_CTDchipod_I08.m`
- `DoChiCalc_I08.m`

2.3 Further processing and analysis

- Data from all casts are combined into a single structure w/ `MakeCombinedStructI08L.m`
-

3 Processing Notes

- Lost CTD package w/ chipods 2020, 2003, 2004, and 2001 early in cruise (near cast 10-15?).
- Table 1 gives the info for χ pods deployed.
- Table ?? gives a summary of the processing from MakeCasts.

Table 1: χ pod Deployment Info

SN	Type	Dir	Sensor
SN1013	mini	up	14-34D
SN2020	mini	up	14-28D
SN2014	mini	up	10-06MP
SN2009	mini	up	11-25D
SN2004	mini	down	13-02D
SN2003	mini	up	11-24D
SN2002	mini	down	13-05D
SN2001	mini	down	10-01MP

Table 2: Some χ pod processing summary info for IO8S. There were 89 CTD casts.

SN	χ data	T1cal Good	toffset < 1min
SN1013	59	56	57
SN2020	11	0	10
SN2014	0	0	0
SN2009	59	57	57
SN2004	10	2	9
SN2003	8	1	8
SN2002	50	43	49
SN2001	10	6	9

3.0.1 Time Offsets

4 Example (raw) Chipod Data for 1 cast

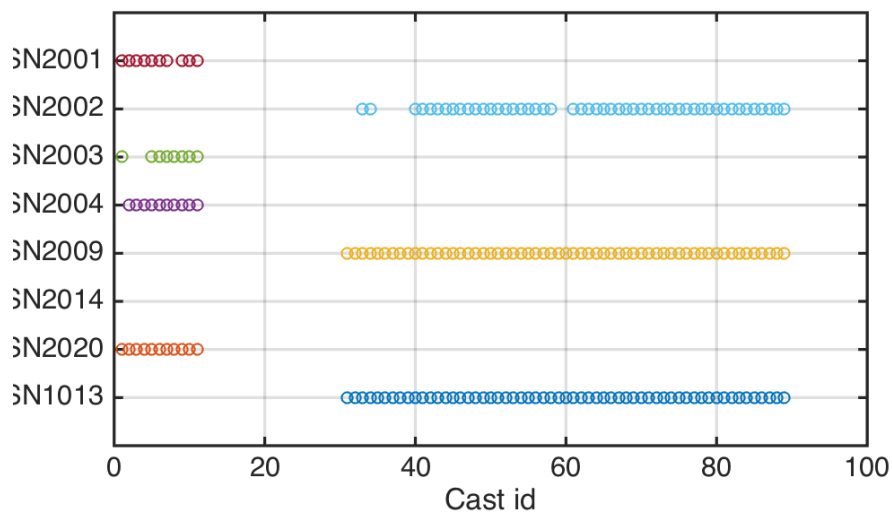
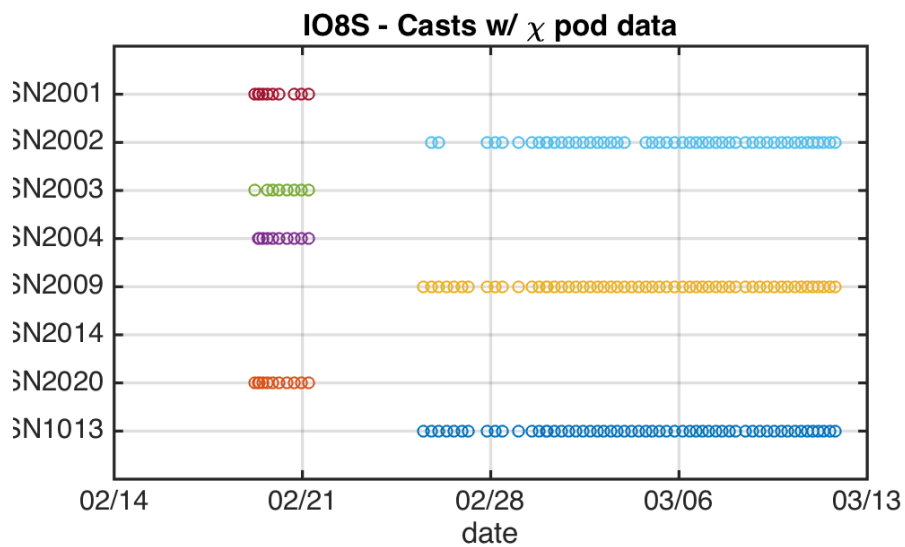


Figure 2: Figure showing which casts there is χ pod data for. Note castid is NOT necessarily same as cast numbers in CTD files.

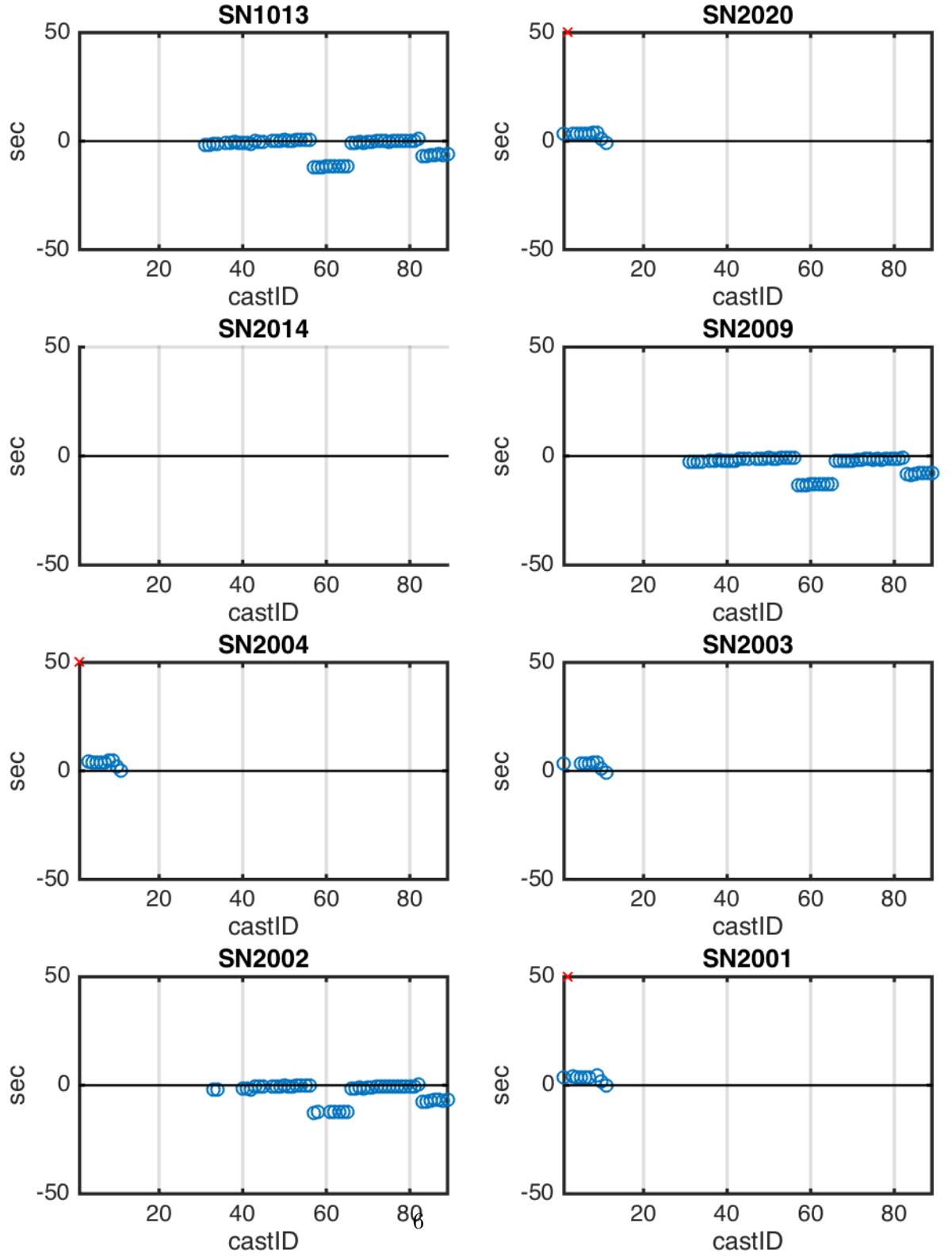


Figure 3: Time-offsets for all χ pods, found by aligning with CTD data.

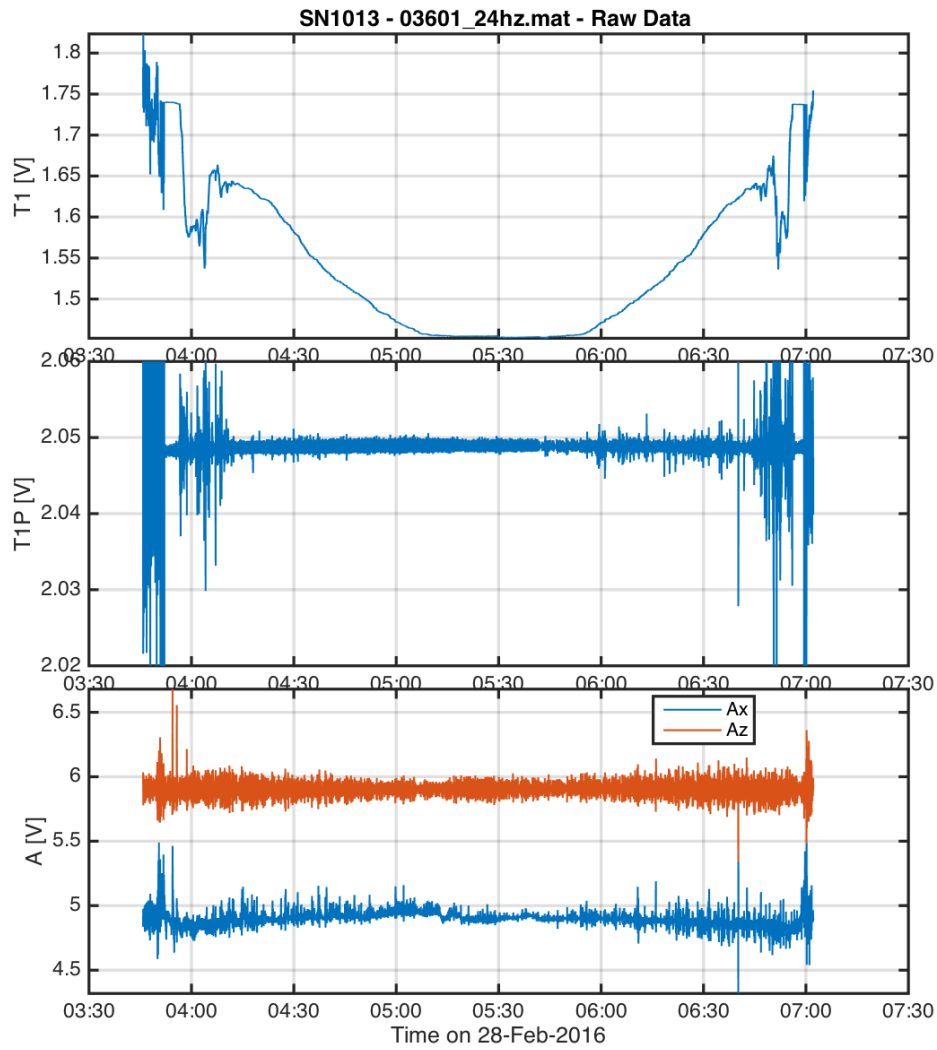


Figure 4: Raw chipod data from SN1013 for one CTD cast.

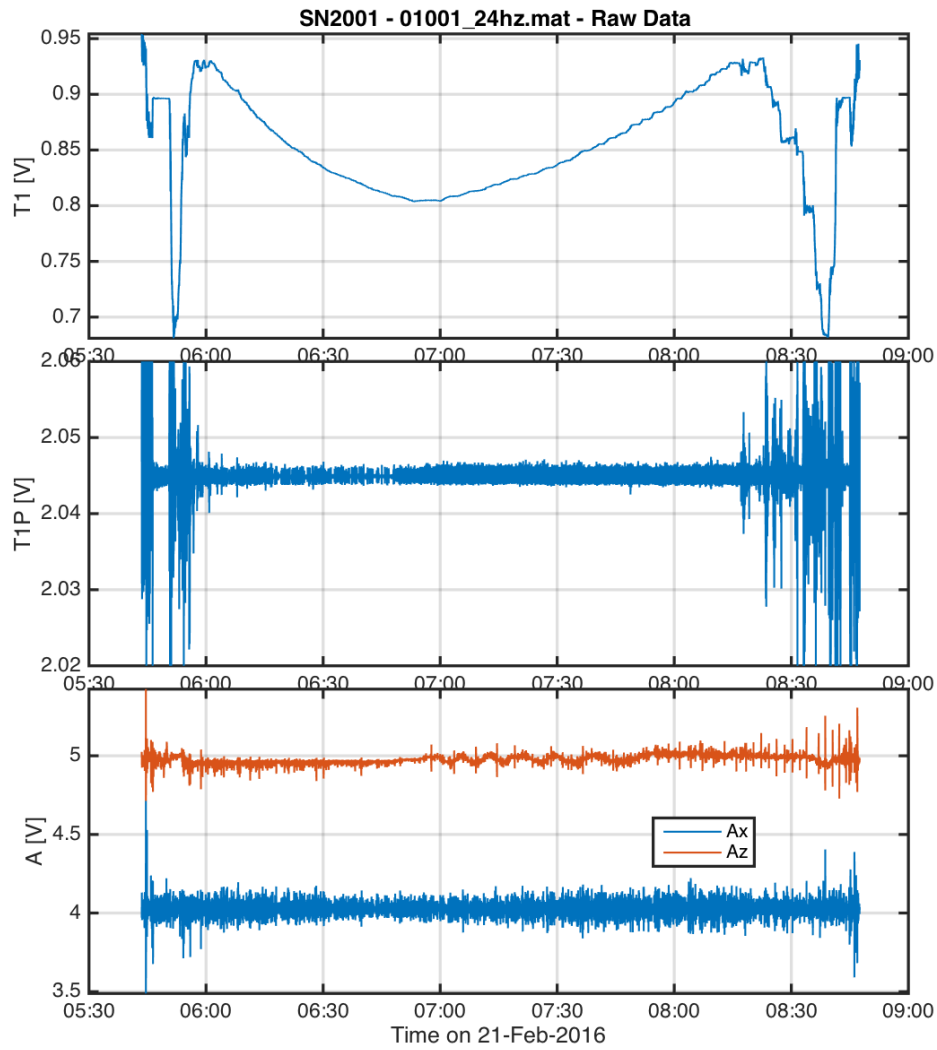


Figure 5: Raw chipod data from SN2001 for a CTD cast.

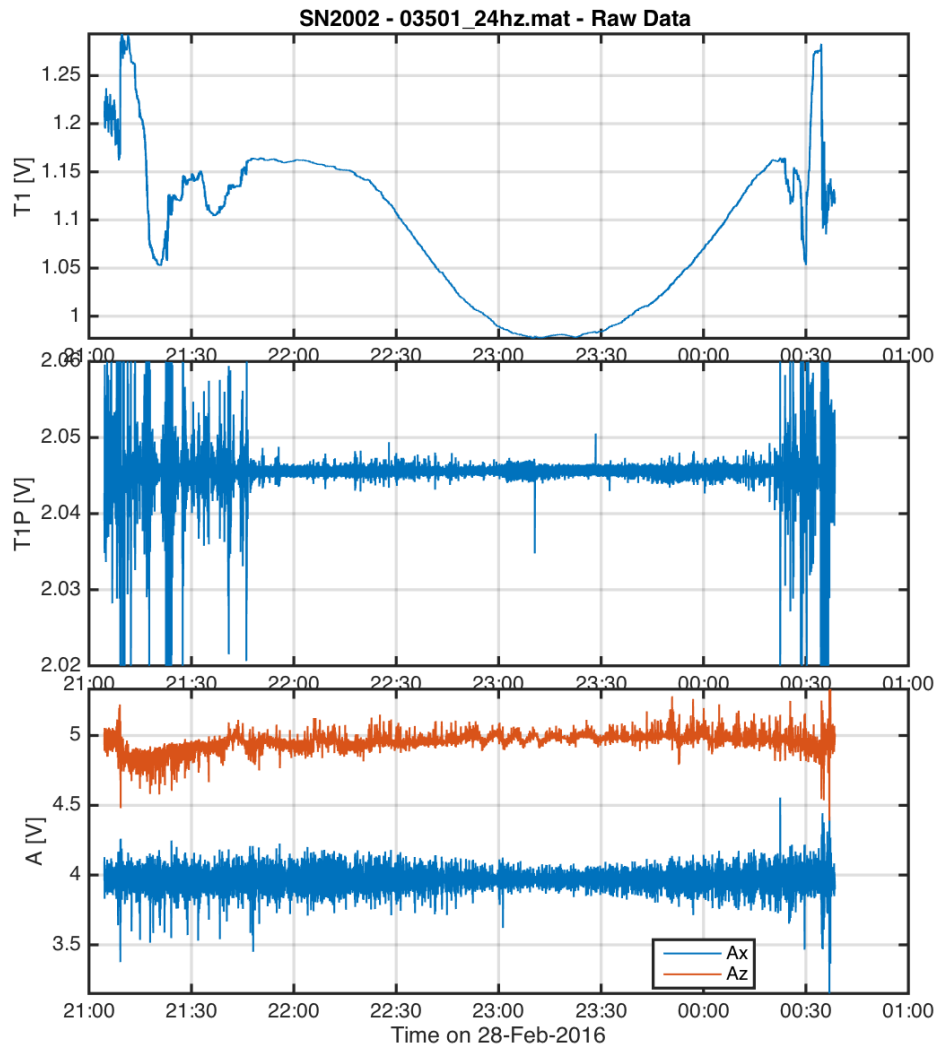


Figure 6: Raw chipod data from SN2002 for a CTD cast.

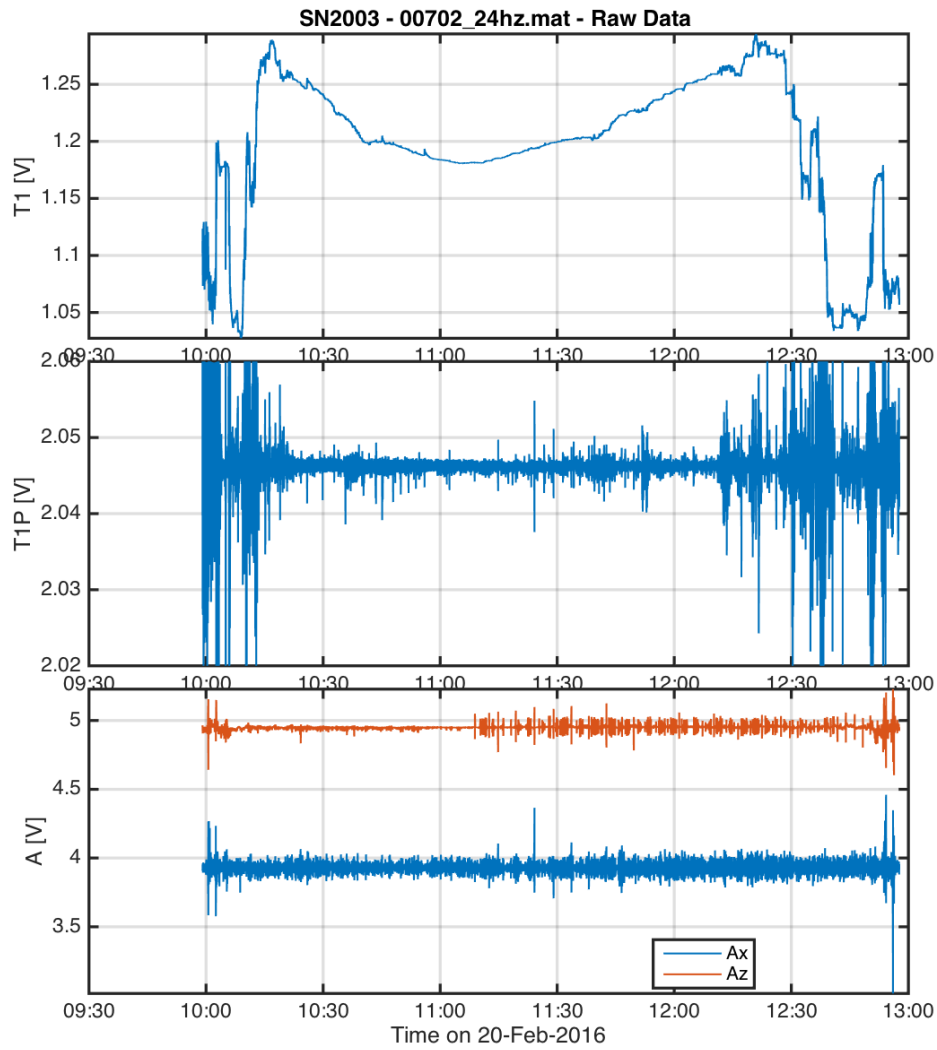


Figure 7: Raw chipod data from SN2003 for a CTD cast.

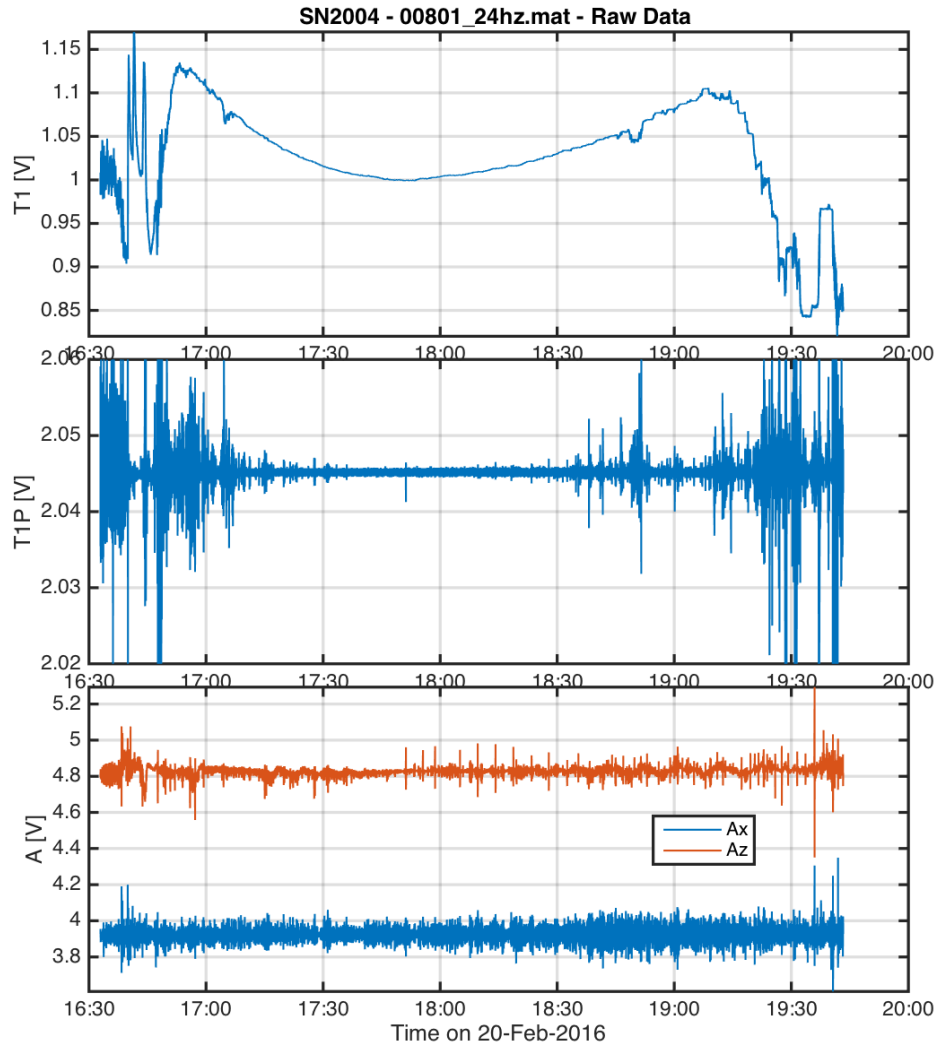


Figure 8: Raw chipod data from SN2004 for a CTD cast.

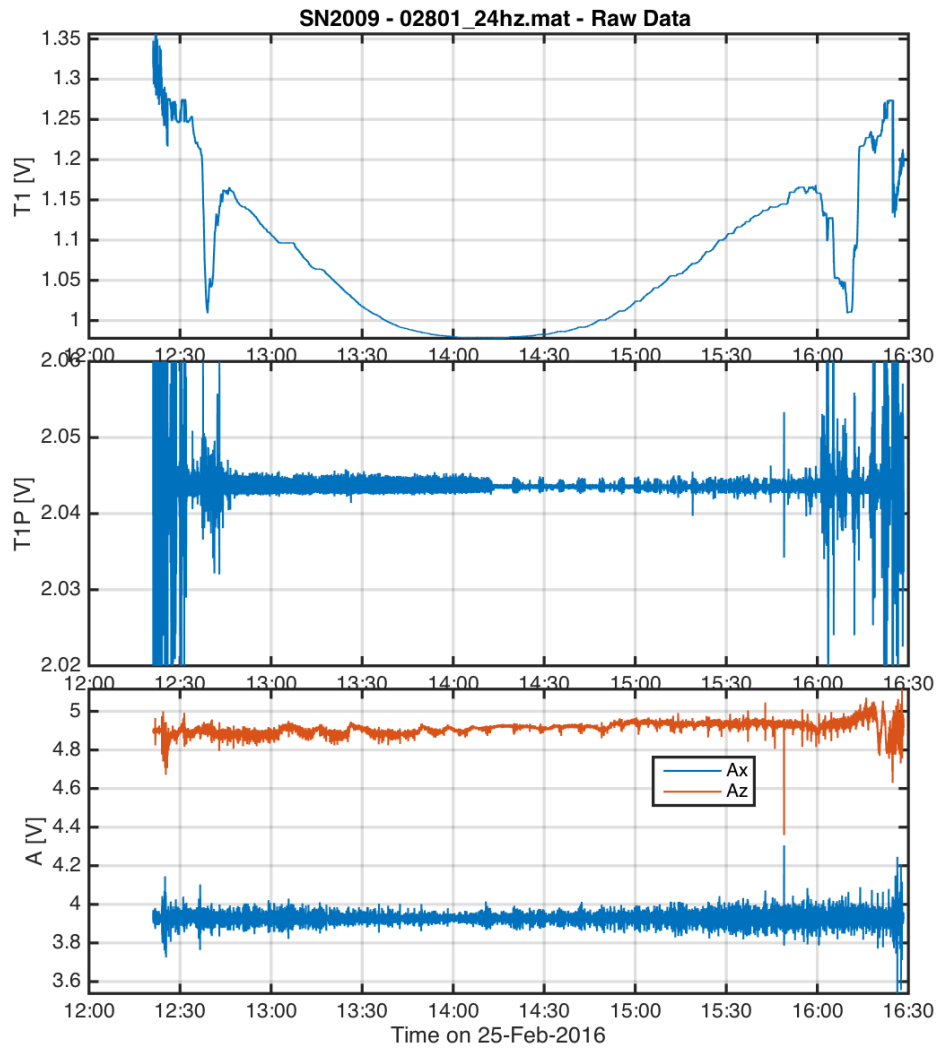


Figure 9: Raw chipod data from SN2009 for a CTD cast.

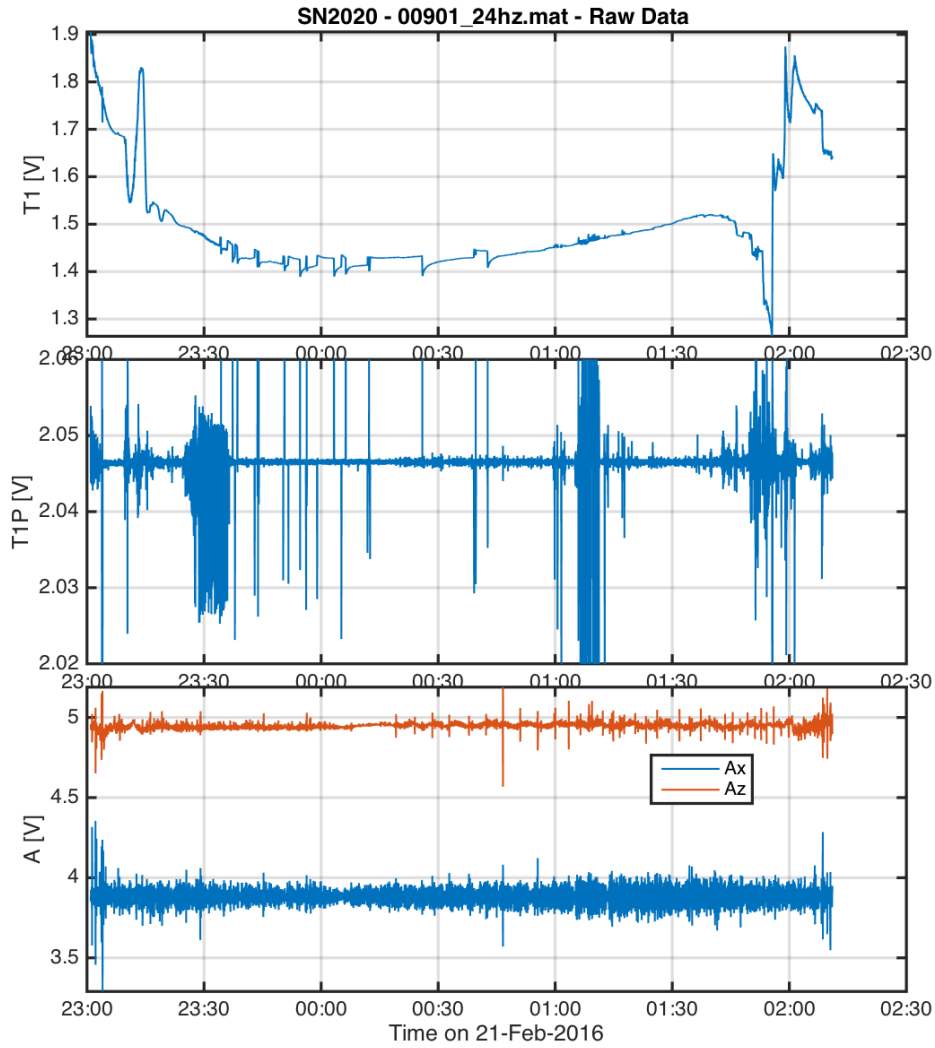


Figure 10: Raw chipod data from SN2020 for a CTD cast.

5 Results

6 Data from each individual Chipod

6.1 SN1013

6.2 SN2001

6.3 SN2002

6.4 SN2003

6.5 SN2004

6.6 SN2009

6.7 SN2020

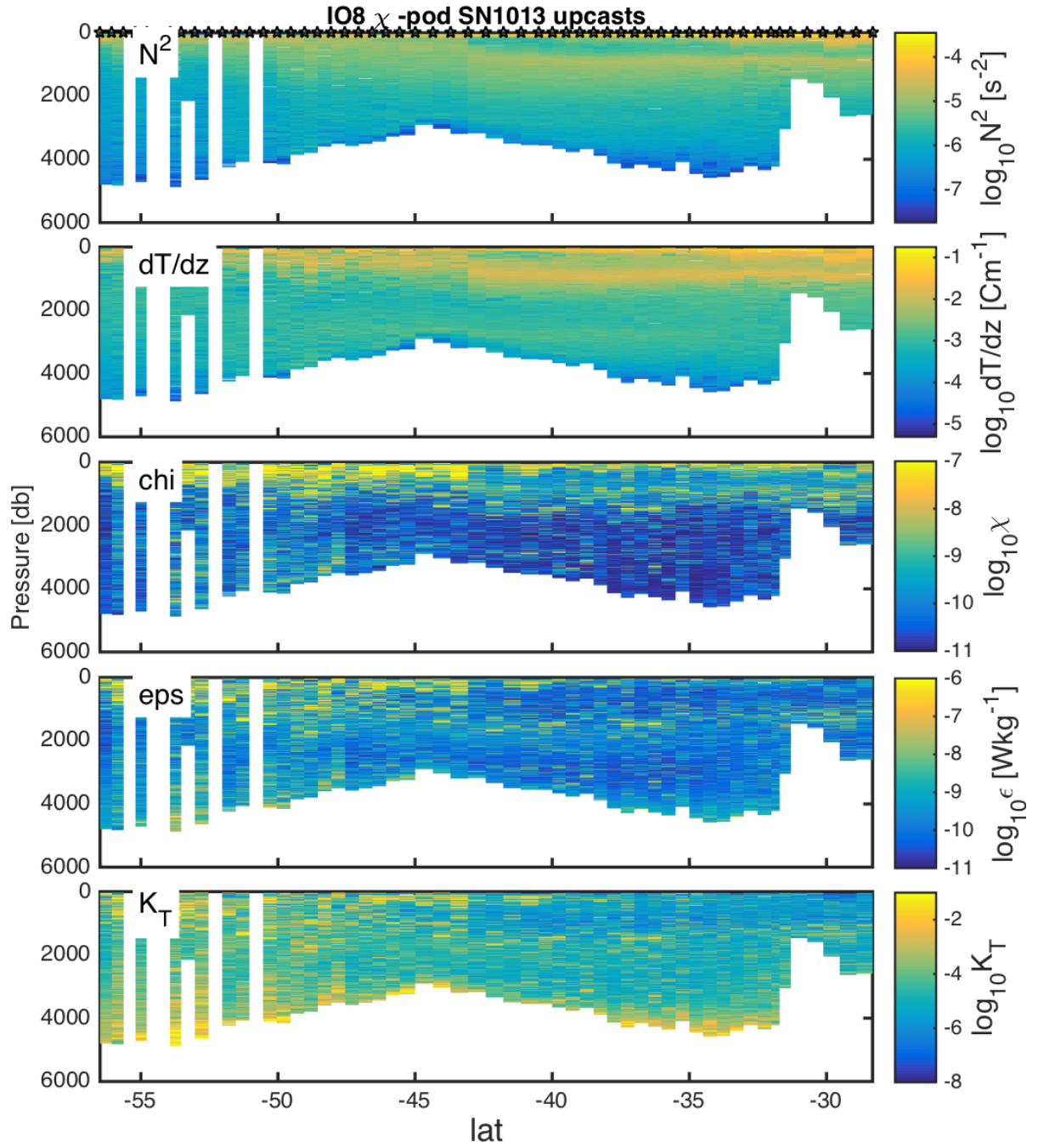


Figure 11: All chipod profiles from sensor SN1013. Variables are: N2, dTdZ, chi, eps, and KT.

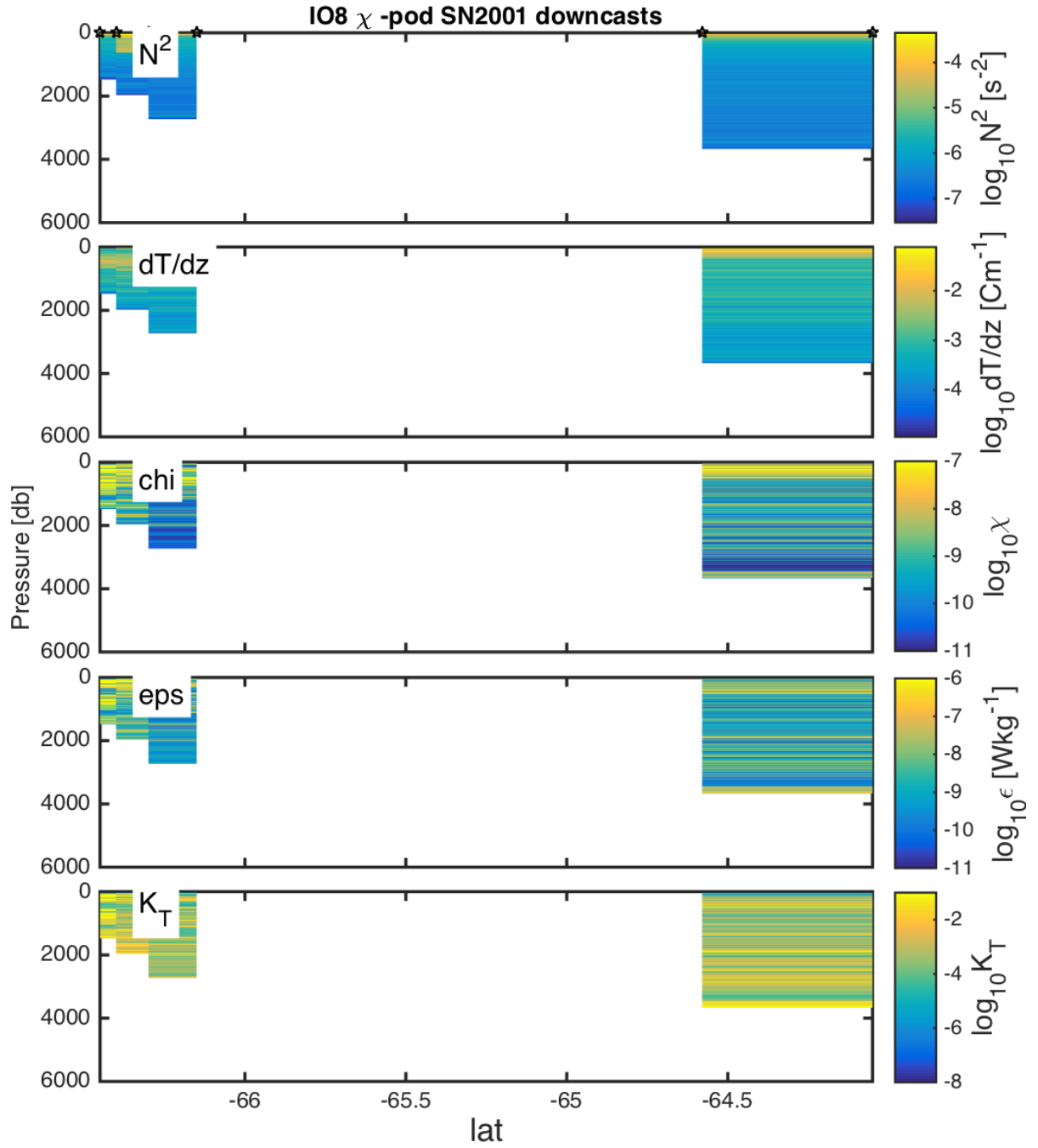


Figure 12: All chipod profiles from sensor SN2001. Variables are: N^2 , dT/dz , χ , ϵ , and K_T .

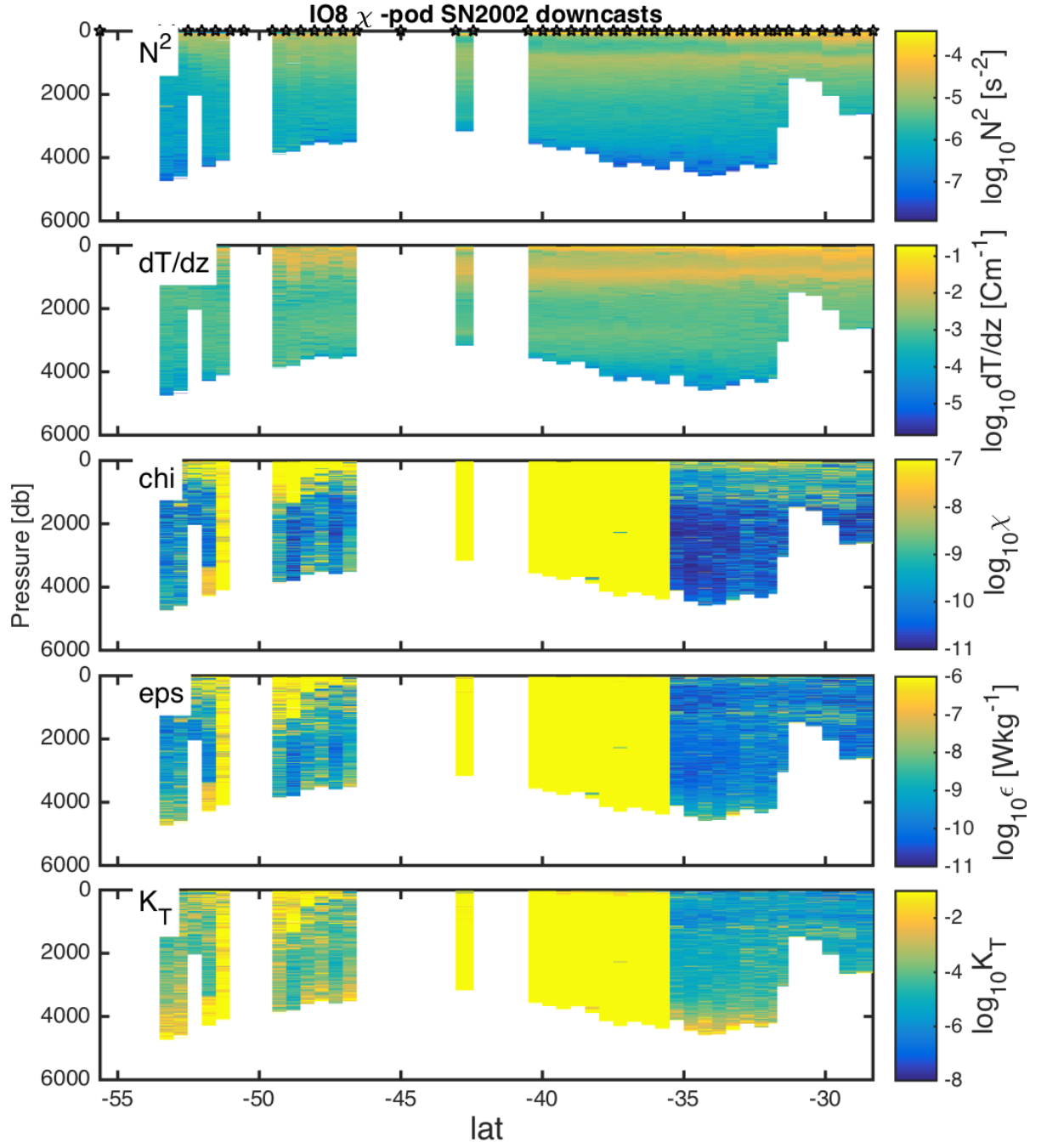


Figure 13: All chipod profiles from sensor SN2002. Variables are: N^2 , dT/dz , χ , ϵ , and K_T .

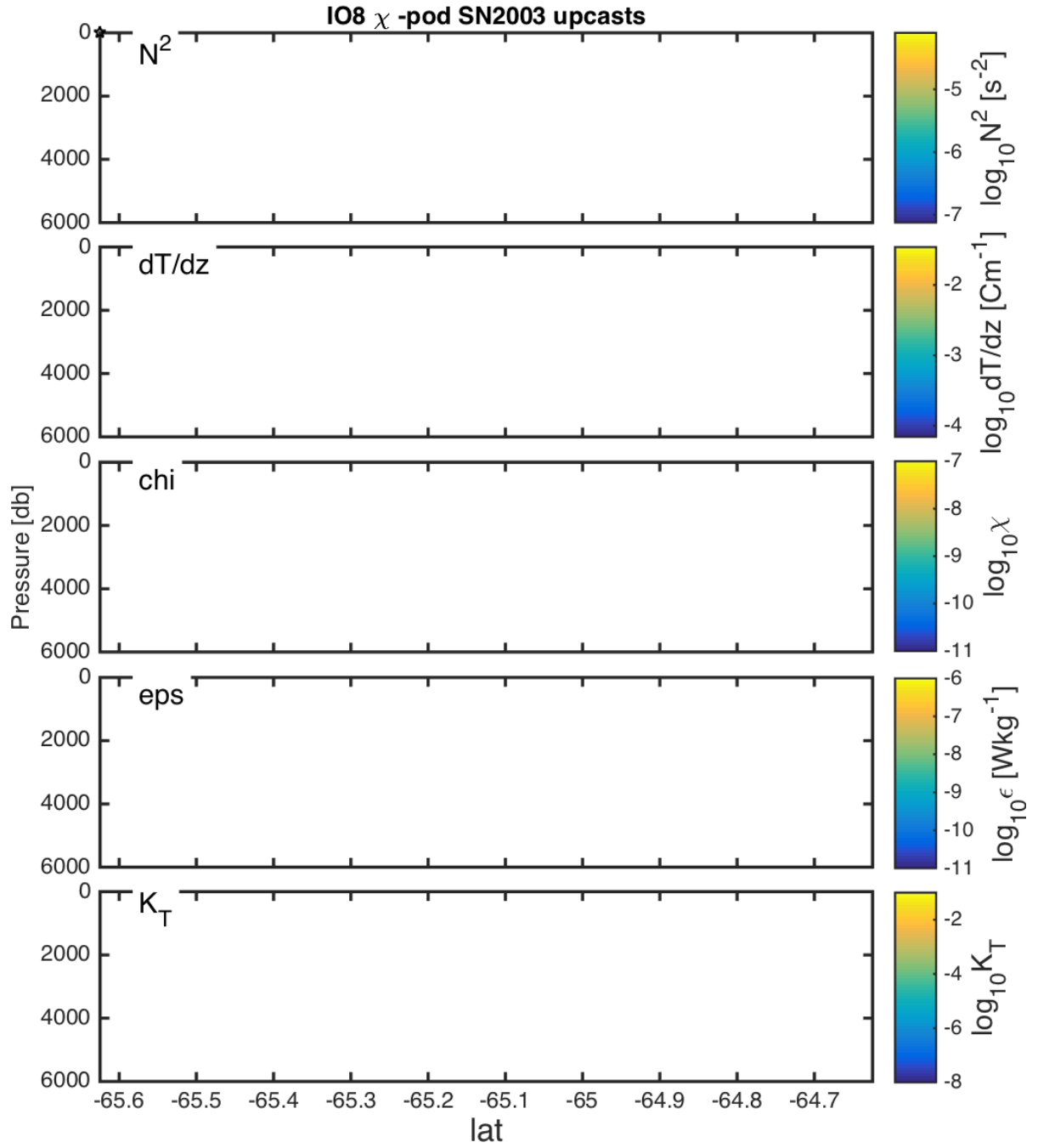


Figure 14: All chipod profiles from sensor SN2003. Variables are: N^2 , dT/dz , χ , ϵ , and K_T .

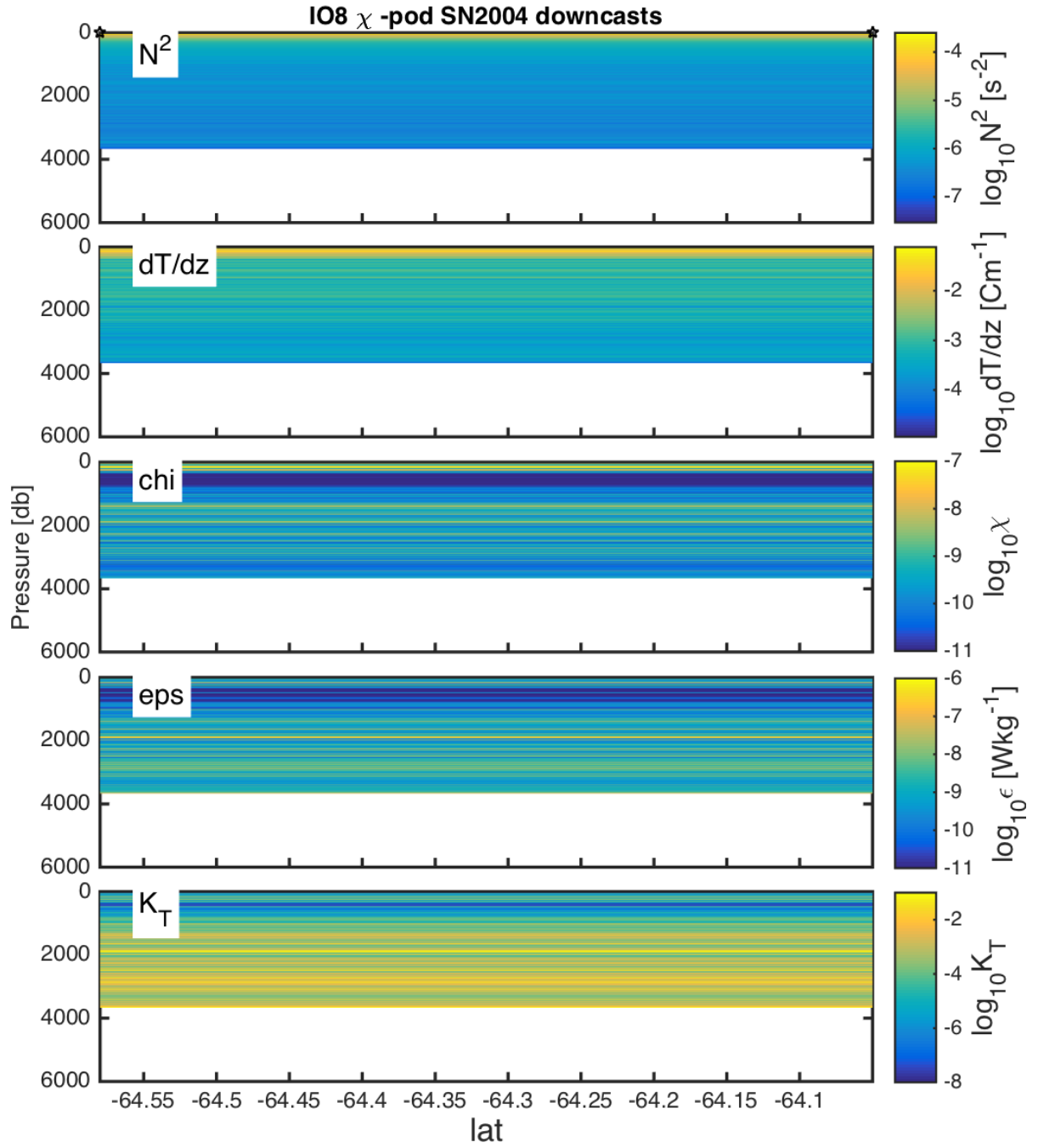


Figure 15: All chipod profiles from sensor SN2004. Variables are: N^2 , dT/dz , χ , ϵ , and K_T .

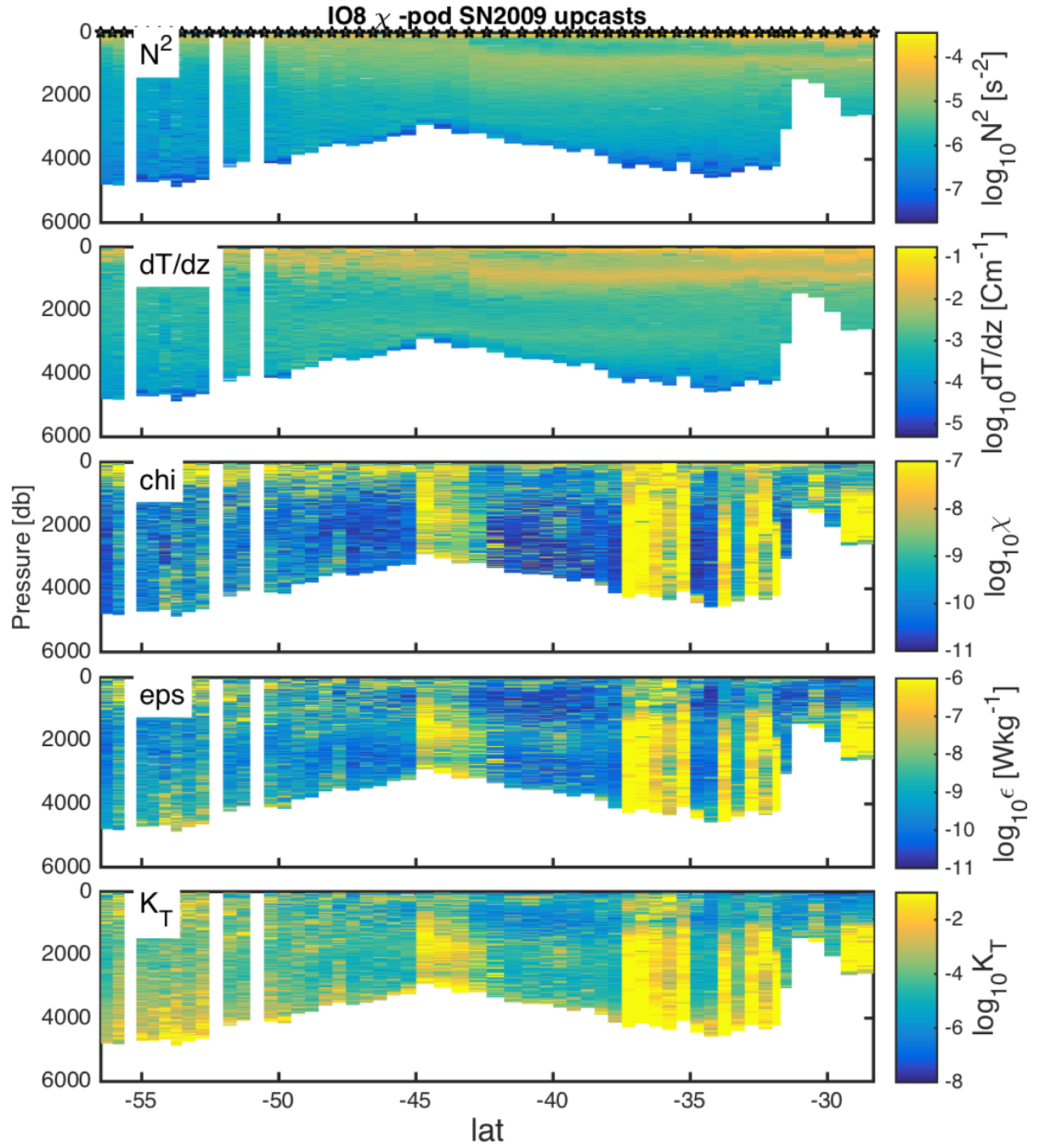


Figure 16: All chipod profiles from sensor SN2009. Variables are: N^2 , dT/dz , χ , ϵ , and K_T .

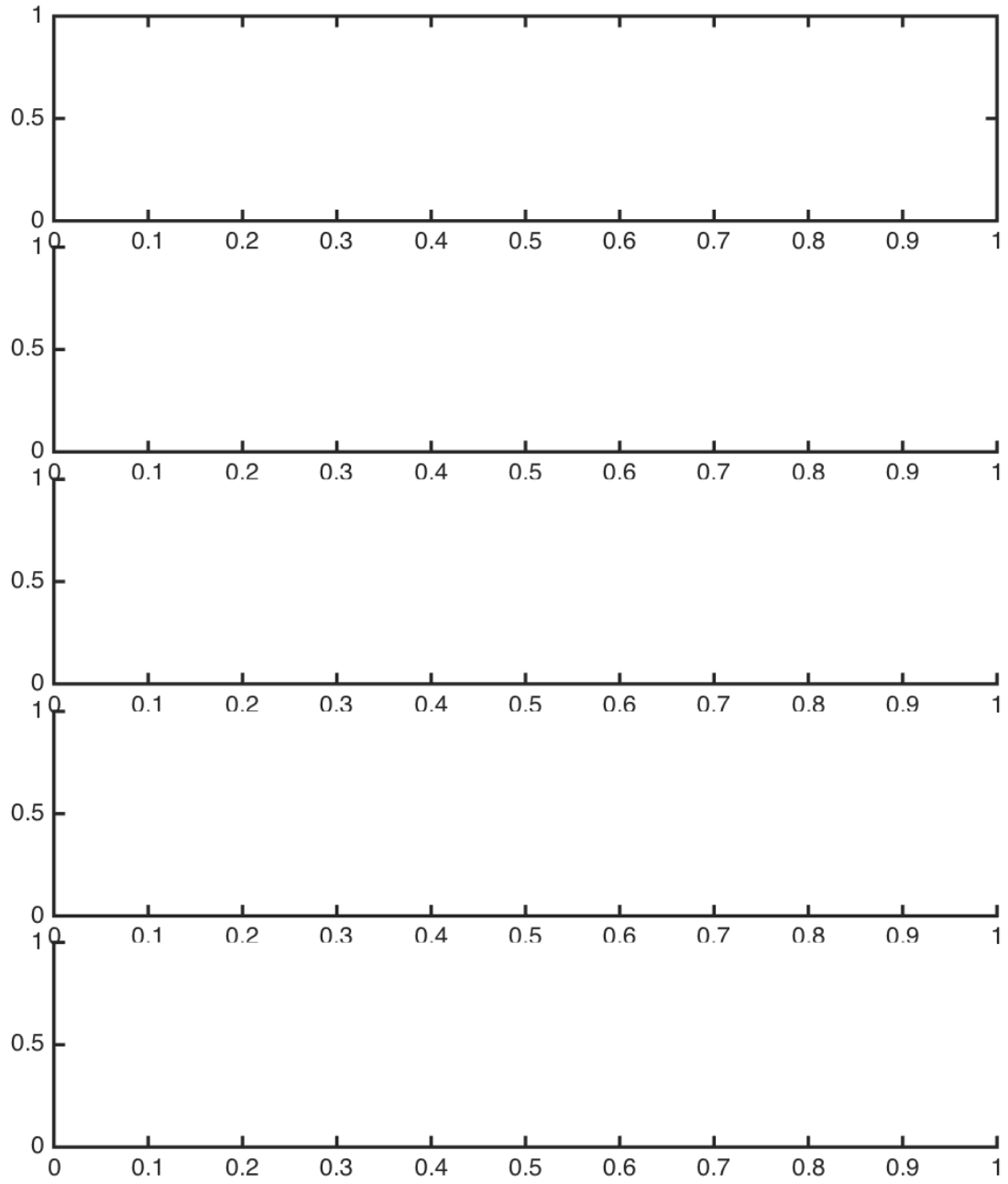


Figure 17: All chipod profiles from sensor SN2020. Variables are: N2, dTdz, chi, eps, and KT.

7 One variable from all Chipods

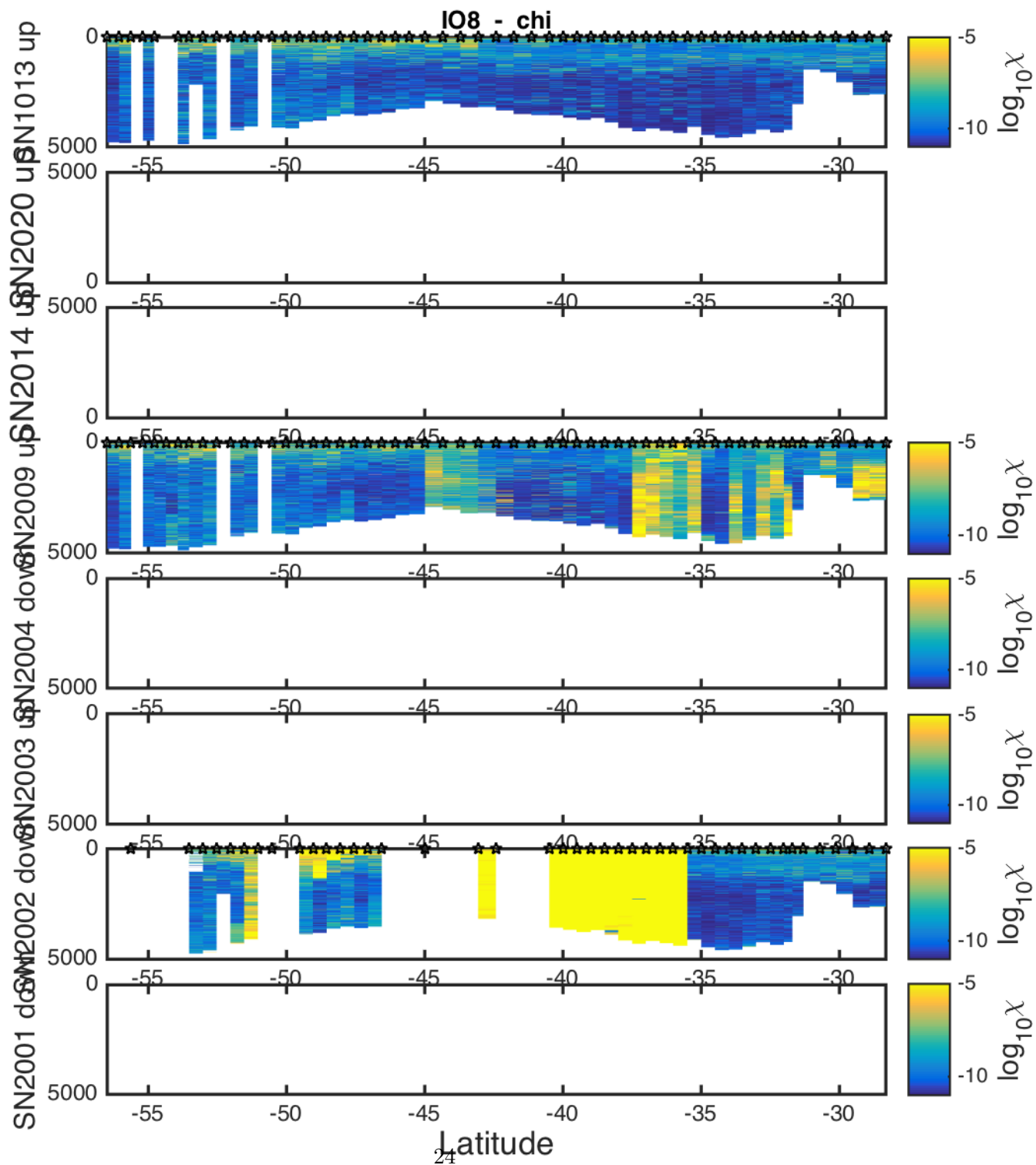


Figure 18: Plot of χ from 4 chipods on I08. These were the 4 units that were lost with the first CTD rosette.

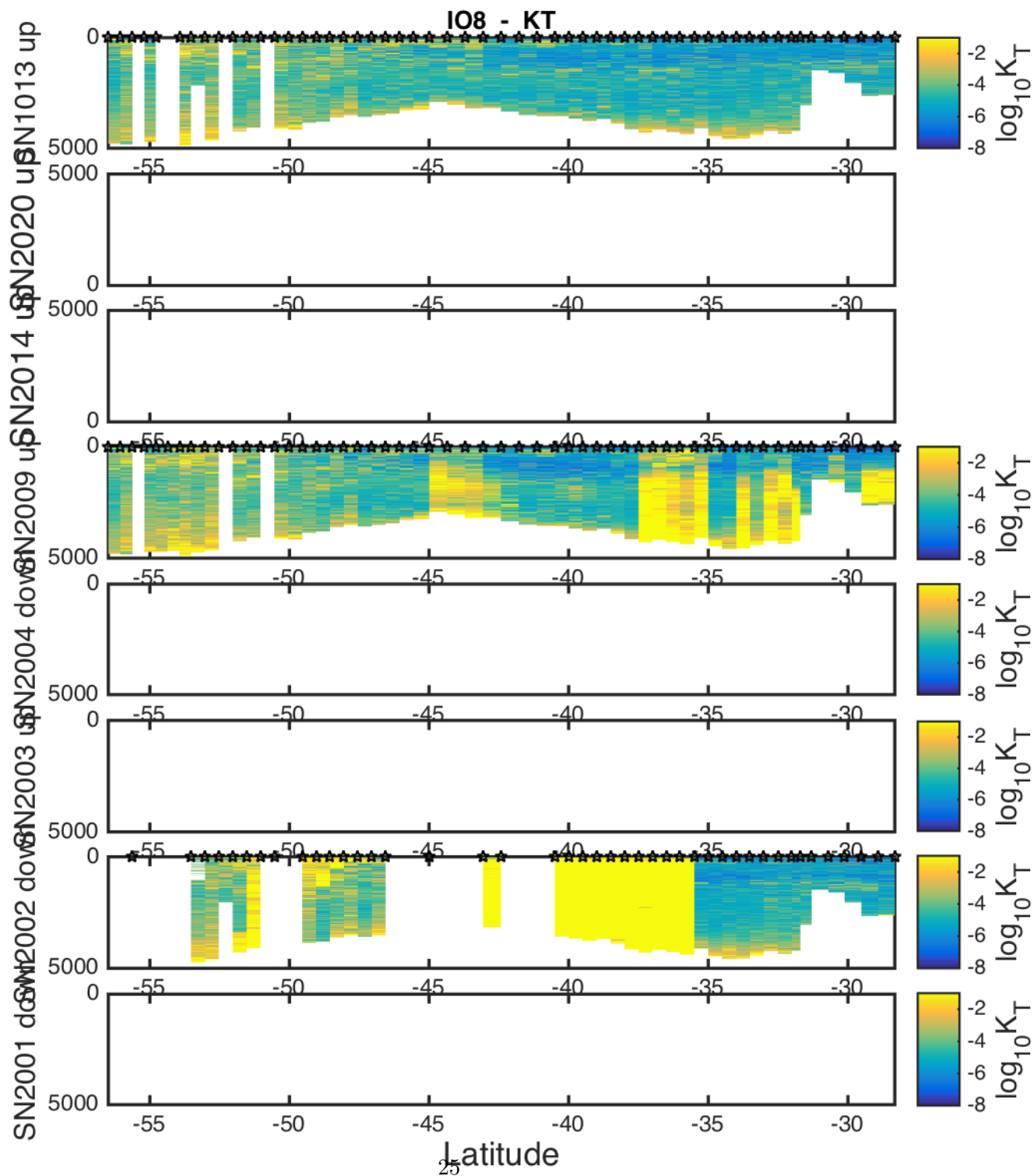


Figure 19: Plot of K_T from 4 chipods on IO8. These were the 4 units that were lost with the first CTD rosette.