The Addition of Non-Conforming Technical/Engineering Data to Argo netCDF

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V3 Tech file based on strictly conforming string name: Not structured for timeseries

V3 Trajectory file is not the correct place for Technical/Engineering information.

An example..... from SOLOII/S2A floats

Cycle 18 **GMT 19/ 9/2016 4:58: 0**

Number	Code	Pressure (db)	Time (s)	Voltage (V)	Current (ma)	Energy (J)	Cumulative Energy (KJ)	Vacuum0 (load-start)	Vacuum1 (load-stop)
1	2	104.48	25	14.52	535	194	0.19 / 71.40	2	2
2	7	2003.32	50	13.03	3112	2027	2.22 / 73.43	2	3
3	13	1349.56	47	13.38	2246	1412	3.63 / 74.84	2	6
4	13	36.64	47	14.46	446	303	3.94 / 75.14	2	10
5	8	-0.04	190	14.21	370	999	4.94 / 76.14	2	20
						Average=	**4.01 (KJ/cycle)**		

The number of measurements is not fixed in a given cycle,
instead varies by float behavior (possibly thousands)

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Already placed in trajectory V3 netCDF via MEASUREMENT_CODE

General Questions

Coriolis policy is to include all information in the Argo netCDF files, thus Jean-Philippe Rannou is requesting accomodation.

Overview Question: Should this data be added to the Argo netCDF files?

Corollary: Are we willing to often change the netCDF Argo file formats to include more, and very likely non-conforming, data?

Possible Pathways

Options for adding this data:

- Addition of technical <PARAM> variables to Trajectory netCDF
  - Pro: Relatively simple to add variables
  - Con: Trajectory file is not the right place for tech information
- Within the curated Tech V3 netCDF with adequate labels

  (e. g. <MC>_DURATION_Buoyancy_Action_<XXX>)
  - Pro: Simple to add name/value strings to existing format
  - Con: Awkward name strings, Difficult to retrieve info, possibly large files
- Within an updated Tech netCDF with an optional variable grouping which mirrors the V3 Trajectory file

  (e.g. N_TECH_MEASUREMENT dimension)
  - Pro: Data easy to store and retrieve, flexible going forward
  - Con: Larger change to format