



Status of BIAS, RCS / BICAS

Solar Orbiter / RPW

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BICAS

- ~Major updates since RPW #22, but still not complete
 - Integration tests at ROC complete (2019-09-25)
 - ICD compliant (ignoring CDF contents) for ICD 01/02 (draft version)
 - Added support for TDS datasets (V03; latest is V04), in addition to LFR (V04)
 - Implementation of full calibration routines well underway, but not integrated into the actual processing.
 - (Code uses obsoleted old simplistic calibration which is planned to be replaced "soon".)
- BICAS will eventually need to calibrate more datasets. Awaiting design decisions.
 - **SOLO_L1_RPW-BIA-CURRENT**
 - ROC/Xavier has asked for and received input on design of dataset.(?)
 - **SOLO_L1_RPW-BIA-SWEEP**
 - ROC/Xavier has asked for and received input on design of dataset.



BIAS-defined Datasets/Skeletons (excl. RCT)

- **L2 – No change** (except ROC's abolishment of ROC-SGSE skeletons)
 - SOLO_L2_RPW-LFR-SBM1-CWF-E
 - SOLO_L2_RPW-LFR-SBM2-CWF-E
 - SOLO_L2_RPW-LFR-SURV-CWF-E
 - SOLO_L2_RPW-LFR-SURV-SWF-E
 - SOLO_L2_RPW-TDS-LFM-RSWF-E
 - SOLO_L2_RPW-TDS-LFM-CWF-E
- **L3 (no L4): No implementation - No change**
 - E x B drift
 - True satellite potential
 - 3D electric field ($E \cdot B = 0$)
- **BIAS Calibration Tables (RCT) – No change**



BIAS Team

- Yuri Khotyaintsev (IRF)
 - **Lead Co-I (overall responsibility) from 2019-03-28**
 - Lead archiving scientist
- Erik Johansson (IRF) – Lead software engineer
- Thomas Karlsson (KTH) – KTH coordination

SUPPORT / SCIENCE:

- Daniel Graham (IRF)
- Anders Eriksson (IRF)
- Emiliya Yordanova (IRF)
- Andris Vaivads - former IRF, at KTH from 2019-04-25

HARDWARE ENGINEERS:

- (Lennart Åhlén (BIAS design, testing) – Retired in ~April 2017)
- (Sven-Erik Jansson – Retired ~2019-04)
- Walter Puccio



Miscellaneous

- BIAS Documents
 - RCS User Manual (RUM): iss/rev 01/02 – **Updated** (2019-09-20)
 - Software Requirements Specification (SRS): iss/rev 01/01 - **Updated** (2019-09-20)
- ROC/Xavier has proposed and BIAS accepted format for delivering bias current for TC, BIAS team→ROC

- Note: A system for handling time-varying calibration data has been requested & proposed, but current BIAS RCTs can already handle that.
 - Temperature dependence is handled by having all zVariables have one time dimension (records). BIAS RCT zVars each use one of *two* Epoch-like zVars (Epoch_L, Epoch_H) for different time resolution for different calibration data.

- Footnote: Inconsistent, undocumented RCT filenaming conventions. Code needs to make undocumented assumptions about LFR & TDS RCTs.
 - BIAS: SOLO_CAL_RCT-BIAS_V201901141146.cdf
 - LFR: ROC-SGSE_CAL_RCT-LFR-BIAS_V20180724165443.cdf
 - TDS: SOLO_CAL_RCT-TDS-LFM-CWF-E_V20190128.cdf
 - TDS: SOLO_CAL_RCT-TDS-LFM-RSWF-E_V20190128.cdf