# AD Instrumentation

| | 2021-2 | | | | 2021-3 | | | | 2021-4 | | | | | 2021-5 | | | | 2021-6 | | | | | 2021-7 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| AD Instrumentation | | AD Instrumentation | | | | | | | | | | | | | | | | | | | | | | | | |
| Implement Mooc 720 Hz Upgrade | | New | | | | | | | | | | | | | | | | | | | | | | | | |
| adinstbpm | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Booster operational test of one crate (...) | | New | | | | | | | | | | | | | | | | | | | | | | | | |
| Booster BPM ACNET Interface | | Work in progress | | | | | | | | | | | | | | | | | | | | | | | | |
| ACNET device BPM Numbers (0x0017) | | Work in progress | | | | | | | | | | | | | | | | | | | | | | | | |
| ACNET device BPM Offsets (0x0016) | | Resolved | | | | | | | | | | | | | | | | | | | | | | | | |
| ACNET device BPM Digitizer (...) | | Resolved | | | | | | | | | | | | | | | | | | | | | | | | |
| ACNET device BPM Turn-by-Turn (...) | | Work in progress | | | | | | | | | | | | | | | | | | | | | | | | |
| ACNET device BPM Single Turn (...) | | Resolved | | | | | | | | | | | | | | | | | | | | | | | | |
| ACNET device BPM Single Turn (...) | | Resolved | | | | | | | | | | | | | | | | | | | | | | | | |
| ACNET device BPM Turn-by-Turn (...) | | Resolved | | | | | | | | | | | | | | | | | | | | | | | | |
| ACNET device BPM Average Position (...) | | Work in progress | | | | | | | | | | | | | | | | | | | | | | | | |
| ACNET device BPM Orbit Group (...) | | Work in progress | | | | | | | | | | | | | | | | | | | | | | | | |
| ACNET device BPM Closed Orbit (...) | | Resolved | | | | | | | | | | | | | | | | | | | | | | | | |
| ACNET device BPM Orbit Correction (...) | | Work in progress | | | | | | | | | | | | | | | | | | | | | | | | |
| bpmd error facility | | Work in progress | | | | | | | | | | | | | | | | | | | | | | | | |
| Verify DAQ operation with at least (...) | | Work in progress | | | | | | | | | | | | | | | | | | | | | | | | |
| Support for flash-turn and flash-orbit (...) | | Work in progress | | | | | | | | | | | | | | | | | | | | | | | | |
| Support for DMA transfers from (...) | | New | | | | | | | | | | | | | | | | | | | | | | | | |
| Locking mechanism for shared memory (...) | | Resolved | | | | | | | | | | | | | | | | | | | | | | | | |
| Create ACNET devices for B38 and (...) | | Resolved | | | | | | | | | | | | | | | | | | | | | | | | |
| Test B38 and B40 | | Work in progress | | | | | | | | | | | | | | | | | | | | | | | | |
| Driver for Booster BPM transition (...) | | Resolved | | | | | | | | | | | | | | | | | | | | | | | | |
| Support flagging that data could (...) | | Resolved | | | | | | | | | | | | | | | | | | | | | | | | |
| No beam threshold | | Resolved | | | | | | | | | | | | | | | | | | | | | | | | |
| Implement Booster BPM scaling | | Resolved | | | | | | | | | | | | | | | | | | | | | | | | |
| Configure BPMs for test stand at (...) | | Work in progress | | | | | | | | | | | | | | | | | | | | | | | | |

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| Why do soft reboots sometime hang? | New |
| Implement polynomial scaling | Resolved |
| bpmcli command to reload bpmd.conf | Assigned |
| Refactor to use getopt | Resolved |
| Support BPM lists in dump commands | Resolved |
| Refactor bpmcli 'abort' command (...) | Resolved |
| Refactor bpmcli 'arm' command to (...) | Resolved |
| Refactor bpmcli 'dump_flash_history' (...) | New |
| Refactor bpmcli 'help' command (...) | New |
| Refactor bpmcli 'readout' command (...) | Resolved |
| Refactor bpmcli 'show' command (...) | Resolved |
| Refactor bpmcli 'shutdown' command (...) | Resolved |
| bpmcli commands for enabling/disabling (...) | Work in progress |
| Improvements to bpmcli | New |
| Booster BPM State Machine | Work in progress |
| Support for GigE ADCs | New |
| x86 support for Technobox XMC GigE (...) | Work in progress |
| IOTA BPM deployment | New |
| IOTA ACNET Interface | New |
| Crate status and control device | Work in progress |
| Support for 4-channel 2-dimensional (...) | Resolved |
| Startup despite missing timing (...) | Resolved |
| Adapter for NML timing module | Work in progress |
| Adapter for IOTA DAQ module | Resolved |
| IOTA State Machine | Resolved |
| Functional specification document | Assigned |
| The number of samples argument (...) | New |
| Control message queue is not destroyed (...) | Resolved |
| Enter BPMs into bpmd.conf | Resolved |
| Create separate "stable" branches (...) | Resolved |
| IOTA BPM TBT Array Device | Assigned |
| ACNET device for Arming IOTA BPMs | Assigned |
| BPM-level delay configuration | New |
| Separate IOTA ACNET code from BoosterBPMACNET (...) | Work in progress |

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| Orbit structure device for IOTA (...) | Work in progress |
| Support multiple sets of coefficients (...) | New |
| TCLK-driven arm and TBT readout (...) | New |
| Request ethernet connection for (...) | Resolved |
| Request ACNET node assignment | Resolved |
| BPM Diagnostics Application | New |
| ACNET interface for adjusting TSG and (...) | Assigned |
| Deploy IOTA BPM hardware | New |
| Booster BPM deployment | New |
| Gather crate and CPU MAC addresses (...) | Work in progress |
| Request ethernet connection for (...) | Assigned |
| Request ethernet connection for (...) | Assigned |
| Request ethernet connection for (...) | Assigned |
| Request ethernet connection for (...) | Assigned |
| Request ACNET node assignment for (...) | Work in progress |
| Request ACNET node assignment for (...) | Work in progress |
| Request ACNET node assignment for (...) | Work in progress |
| Request ACNET node assignment for (...) | Work in progress |
| bpmd.conf for BBPL15 | New |
| bpmd.config for BBPL15 | New |
| Change node name for all BBPM15 (...) | Resolved |
| Change node name for all BBPM06 (...) | Resolved |
| Change node name for all BBPM21 (...) | Resolved |
| Change node name for all BBPM12 (...) | Resolved |
| Change node name for all BBPM18 (...) | Resolved |
| Change node name for all BBPM24 (...) | Resolved |
| Snapshot plot support for Booster BPMs | Assigned |
| PIP2IT BPM Project | New |
| Refactor to store positions inside (...) | New |
| Position calculation thread | New |
| IPC to broadcast events from bpmd | New |
| Support GigE readout | New |
| Python API for accessing BPM data | New |
| Merge iota_stable, booster_stable | New |

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| Support for I&Q, phase space data (...) | New |
| Support displaying bpmd broadcasts | New |
| Support displaying data in gnuplot | New |
| RMS analysis process | New |
| Interactive bpmcli | New |
| Support for Analysis Processes | New |
| Support rack-mount server architecture | New |
| Review request [commit:9d6fb8c32be2b760ee7030952422308551c178991: (...) | New |
| Missing Mutual Exclusion with linked (...) | New |
| TRACE buffer levels need to be in enumeration | New |
| drvgen | |
| Remove redundant or unnecessarily long (...) | New |
| TSI-148 bridge does not support a master (...) | Assigned |
| Support for VME A24 | New |
| A24 Registers Support | Assigned |
| A24 Data Regions Support | Assigned |
| Constants generated for bitfields and (...) | Resolved |
| runtime_error in generated getDeviceInSlot() (...) | Resolved |
| Kernel-level xxxmod_device_get() routine (...) | Work in progress |
| Make the VME A16 scanning increment (...) | Work in progress |
| Image Tool | |
| Live Images not working | Resolved |
| Remember fit selection between acquisition (...) | Resolved |
| Error notifications on multi-screen (...) | Resolved |
| Picture Stops Updating | Resolved |
| Incorrect amplitude scaling on ROI | Accepted |
| Saturated Pixels incorrect on Background (...) | New |
| Java Security Blocks | New |
| Input is not in the .gz format | Resolved |
| Camera Ordering | New |
| Error on One-Shot Acquisition | Accepted |
| Defalut camera? | New |
| Device List in Meta | New |
| Incorrect Horz Histogram window on ROI | New |

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| Frequent Errors in Live Acquisition | New |
| Camera-Switch Instability | New |
| inst-bpm | |
| Refactor pointer usage to smart pointers | Accepted |
| Booster frequency curve | Accepted |
| State Machine subsystem | Accepted |
| Implement timer-triggered commands | New |
| Instrument bpmd control commands (...) | New |
| BPMDRO does not release on exit | New |
| adc250x12xs VXS interface | New |
| StateMachine refactor | New |
| Design ACNET interface for command (...) | New |
| Use the GoF State pattern in StateMachine (...) | New |
| Move the Command and CommandList (...) | New |
| Rename the IDLE command the EXIT (...) | New |
| Turn off interrupts when module is removed. | New |
| Execute CommandLists | Assigned |
| Find a replacement for the CT VX405/04x (...) | New |
| Down Converter Test | New |
| bpmcli command for loading the (...) | New |
| Test command list for reading out (...) | New |
| Make Synoptic pages for displaying (...) | Feedback |
| Timing board stops generating TCLK (...) | Assigned |
| btimemod_device_release does not release (...) | Resolved |
| State Machine subsystem test | New |
| PXIE BPM Deployment | New |
| PXIE BPM Test Node | New |
| Network connection and kerberos (...) | Assigned |
| Boot flash for PXIE BPM test (...) | New |
| Instrumentation Drivers | Instrumentation Drivers |
| DCCT ADC Driver | Assigned |
| Driver for VFRT-VUCD TSG | New |
| Driver for CMTF Interlocks ADC | New |
| ACNET interface for CMTFInterlocksADC | Assigned |

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| 80MHz board driver could be a little (...) | Resolved |
| slowness of init of 80MHz driver ?? | New |
| Raw data device does not support channels | Accepted |
| Develop a Prototype VME Driver Writer | New |
| 80MHz Digitizer requires repeating commands (...) | Resolved |
| 80MHz digitizer driver should sanity (...) | Resolved |
| 57 -97 errors on raw/triggered data (...) | New |
| Add offset to add into waveform points | New |
| Driver for 12-channel NML Timing Board | New |
| Setup a test crate | New |
| Submit network connection (...) | New |
| Create drvgen register map | New |
| Commission nmltrg | Assigned |
| Verify operating of ACNET devices (...) | Accepted |
| Firmware loading tool for Linux | Assigned |
| Driver for IOTA BPM Timing Module | New |
| drvgen specification for NML timing (...) | Work in progress |
| Device driver for IOTA DAQ module | Assigned |
| drvgen specification for IOTABPM250x8 | Resolved |
| Implement DMA readouts for Raw (...) | Work in progress |
| Commission IOTATG | New |
| Request ethernet connection for (...) | Work in progress |
| Request ACNET node assignment for (...) | Assigned |
| Create startup script for IOTATG | Assigned |
| Configure startup parameters for (...) | Assigned |
| Create ACNET devices for IOTATG | Assigned |
| Verify ACNET devices and operation (...) | Assigned |
| Channel level delays for IOTA BPM DAQ | Work in progress |
| Linux on MVME8100 | |
| Need extra mini db-9 cables, null modem (...) | New |
| Linux Kernel booting on the MVME8100 | New |
| Setup build area | Assigned |
| Network connection for booster (...) | Assigned |
| Main Injector BPM | |

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| Upgrade all BPM nodes to ACNET/MOOC (...) | New |
| Upgrade to VxWORKS 6.7 | New |
| MI/RR IPM | |
| Single turn plot does not work when (...) | New |
| Necessary LabView parameters are no (...) | Resolved |
| State machine devices for Booster IPMs | Resolved |
| Plotting Charge, Sigma and Turns does (...) | New |
| Single turn plot not showing current (...) | Resolved |
| Excessive delay in first plot, capturing (...) | New |
| rbpm | |
| Setup test node | Assigned |
| Add test node to R143 | Assigned |
| Verify test node | Assigned |
| Commission Muon Houses S60, F1 and F23 | New |
| Network connections for new muon (...) | New |
| Configure startup scripts for ubpm6s, (...) | Assigned |
| ACNET devices for ubpm23 BPMs | Assigned |
| Support 53MHz, 53MHz stacked and (...) | Assigned |
| Recycler BPM | |
| New P1 Line BPMs | Accepted |
| Upgrade to MOOC v4.1 | New |
| Build gbpm, rrbpm and rrtb code (...) | Assigned |
| Deploy MOOC 4.1 to test stand and (...) | New |
| Deploy MOOC 4.1 to a single rbpm (...) | New |
| Deploy to remaining rbpm houses | New |
| Missing first injection and other odd (...) | Assigned |
| Support Notes | |
| Re-Write "RFIES Variants - Detailed" (...) | New |
| Timing Library | |
| Support for Charlie's evttrig library | Accepted |
| ubpm | |
| Establish Test Stand | New |
| Assemble crate | New |
| Network connection | New |

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| Request ACNET node name | New |
| Create git repository | New |
| Establish Targets file, startup (...) | New |
| Rename RRXxx classes to MuonXxx | New |
| Create ACNET devices for test node | New |
| Add Muon Campus Devel 'area' to (...) | New |
| Modify MuonStateMachine to respond (...) | New |
| VME BPM | |
| Add nodes to save list | New |
| Move scaling into the frontend | New |
| VP94 and HP103 show identical data when (...) | New |
| Release 201603A | New |
| Upgrade ClassACNet/Mooc | Assigned |
| SY BPMs won't boot | Resolved |
| F4 node won't boot | New |
| Replace SBC at F4 | Resolved |
| BBM Interface | Assigned |
| Attenuation tables won't initialize (...) | Resolved |
| Improvements for auto-tune operation | New |
| Flat positions being reported intermittently | New |
| Put together a test stand | New |
| Establish alarms for SBPMxx nodes | New |
| ACNET support for beam threshold | New |
| Error state during spill | New |
| Investigate reading back attenuator (...) | New |
| Improve error handling of CAN bus (...) | New |
| VME Intensity Monitor | VME Intensity Monitor |
| BBB devices are returning stale data | Feedback |
| BBB standard deviation device | New |
| 2015 Shutdown | New 95% |
| Implement MDAT Receiver | Assigned |
| Request remote reboot devices | Work in progress |
| Configure MDAT frames | Assigned |
| ANUB Startup | New 96% |

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| Normalized BEL devices | Assigned |
| Support beam before extraction (...) | New |
| Deploy New MI Tororid Nodes | Resolved |
| Refactor to use the PMCUCDTimingSystem (...) | Assigned |
| Simplify Script Set Register Functions | Work in progress |
| ACNET settings for ADC parameters | Resolved |
| Reset sum on disarm event + delay | Assigned |
| Acnet Device Set Toroid ADC Registers (...) | Work in progress |
| Confirm ADC Present and Correct | Work in progress |
| Injection and Extraction Cycle Devices | Assigned |
| Beam Energy Loss Devices | Assigned |
| Cycle devices for anub | Accepted |
| Use Trace for logging & error reporting | Assigned |
| April Release - 201604A | New |
| Refactor to useAD/Control's concurrency (...) | New |
| Move ADC drivers to adinsthw | New |
| TSG Support | Assigned |
| Support Alexei's changes to the (...) | Assigned |
| Remove Conditional Compilation (...) | Work in progress |
| Turn of tracing for ACNET tasks | New |
| Refactor TRACE0 calls with the (...) | New |
| Support new digitizer gate mode (...) | Resolved |
| 201602A Replace Latch with ATR | Work in progress |
| 201602A Document ATR | Work in progress |
| Create new sum devices | Assigned |
| Rename *.h Files to *.hpp | Work in progress |
| Scale Factor EVENT OVERLAP Error Message (...) | New |
| Transition operational Recycler DCCT (...) | Assigned |
| Rename ANUB | Assigned |
| Array Data Timeout Request | New |
| MI/RR DCCT Configuration Update | Assigned |
| Transfer MI DCCT Acnet devices (...) | New |
| Cleanup DcctDrv & Calls to DcctDrv | Work in progress |
| New DCCT V2.1 Firmware Driver | New |

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| MDAT requires Baseline Filter | New |
| Pxint Firmware Update to ABB0E | Work in progress |
| Pxie Scrapers Clean Up | Work in progress |
| DCCT: Transfer Recycler Devices from (...) | Assigned |
| Support different DcctDrv firmware running (...) | Assigned |
| Update Pxie Gate Width Calibration Mode | Work in progress |
| Replicate PXINT on NBEAM Request | New |
| ACNET device support for new MPS features (...) | Assigned |
| Support tracking the chopper's pulse (...) | Assigned |
| Configure second ring pickup for PXIE | Assigned |
| Fix scaling for ring pick MPS thresholds | Assigned |
| ADC configuration commands for PXIE (...) | Assigned |
| BBM for R:TOR703 | Assigned |
| Configure pulse width tracking for PXIE (...) | Assigned |
| Write integrated pulse readings to file | Assigned |
| New scale factors for PXIE Ring Pickups (...) | Work in progress |
| Support for Rich's MPS transmission (...) | Assigned |
| Support for PXIE digitizer firmware (...) | Assigned |
| Request for I:13SUM1 | New |
| Support plotting MDAT transmitter frames (...) | New |
| Create devices for Ring Pickup study (...) | Work in progress |
| Configure R:TOR703 for g-2 operation | Assigned |
| Configure a cycle device for R:TOR703 (...) | Resolved |
| Build support into Cycle Devices that (...) | Assigned |
| Commission new toroid nodes at NML | New |
| Install hardware for NMLTR2 | Work in progress |
| Install hardware for NMLTR3 | Work in progress |
| Create ACNET devices for new toroids | Work in progress |
| Verify new devices with a test (...) | New |
| Verify BBM interface with Bill (...) | New |
| Commission new scrapers for PXIE | Resolved |
| ACNET devices for new scrapers at PIP2IT | Assigned |
| Comission M40TOR front end | New |
| Configure M40TOR CPU board | Resolved |

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| Request ACNET node ID assignment (...) | Resolved |
| Configure startup script | Assigned |
| Configure MDAT transmitter | New |
| Test & Verify | New |
| Sum device for muon campus toroid (R:TOR703) | New |
| More summation devices requested | New |
| Commission F16TOR | Assigned |
| Install and configure hardware (...) | New |
| E:NUMIPWR | Assigned |