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ATF2 High Availability DC Magnet Power Supplies – Commissioning Status

By: Paul Bellomo, Antonio de Lira,
Briant Lam* and David MacNair

*bri@slac.stanford.edu

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- Nov 2008 Commissioning
 - AC Installation
 - Hardware Check Out
 - Notes on Magnets
 - SF1 and SD0
 - SF5
 - 10 PPM Magnets



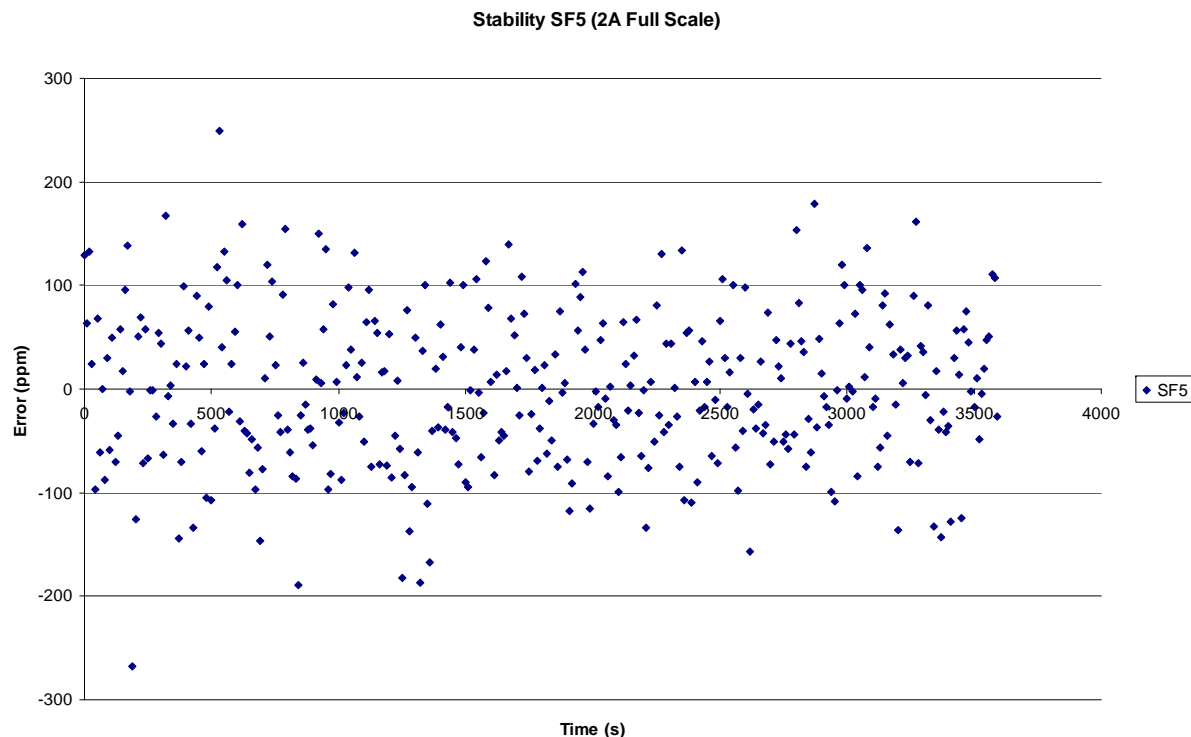
- Previous AC installation did not provide neutral for the bulk power supplies.
- New delta-wye transformer was installed.



- FF Magnets
 - All magnet electrical connections were covered
 - Thermal switches verified
 - Flow switches verified
 - With the exception of the ones that use an old flow switch that does not work. These have a jumper installed.
 - Magnetic Polarities verified
 - EPICS control verified



- Final Doublet Sextupoles
 - Solid wire magnets that run at 8A and standardize to 12A.
 - The 50A power supplies are limited to 12.5A in hardware, by placing 12 turns through the 150A DCCT.
 - A software limit of 12A was placed in EPICS.



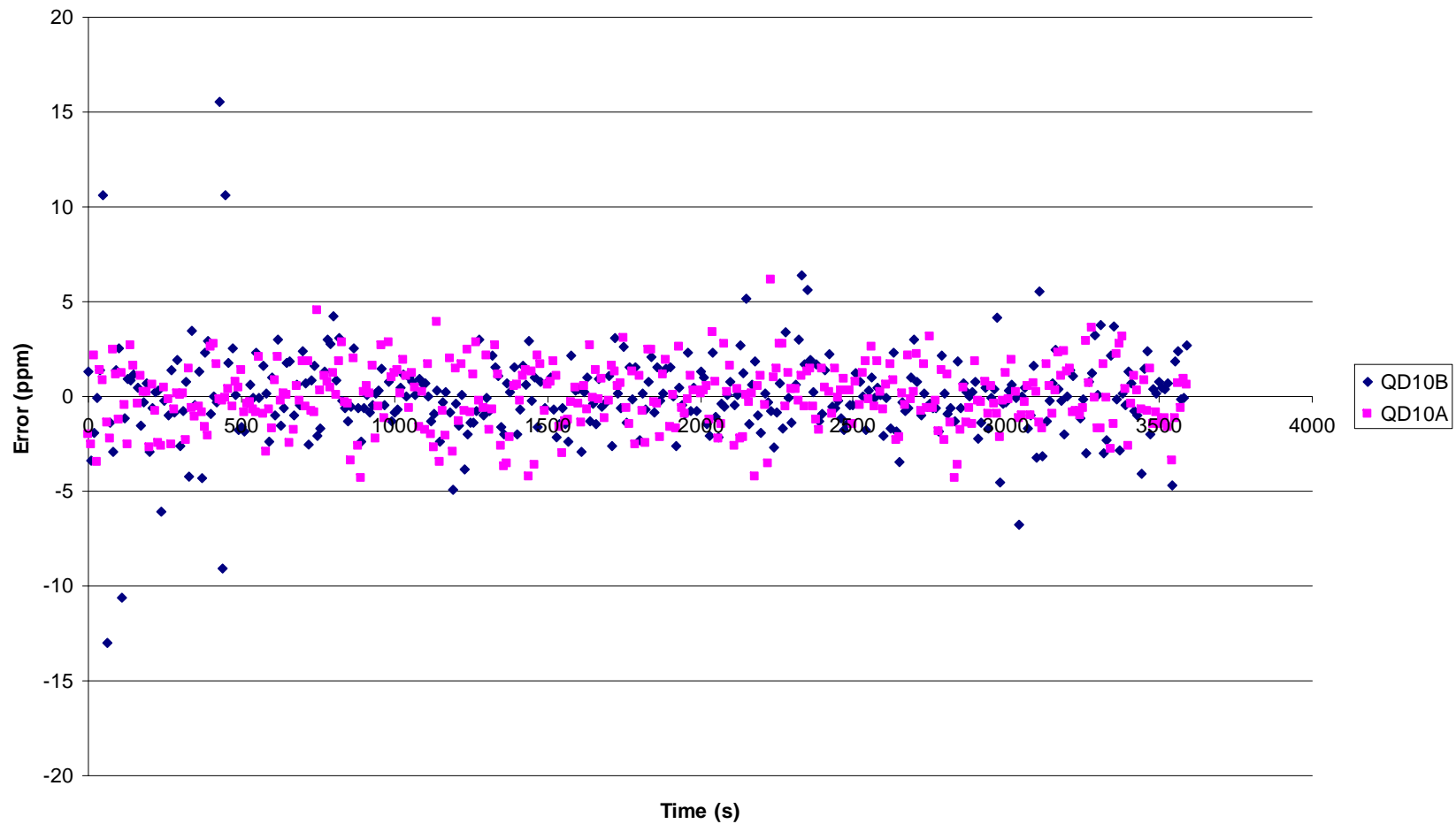
- SF5
 - Plans to run this magnet at 1.5A from a 50A power supply
 - Increase the number of turns through the 150A DCCT from 3 to 6 to increase the readback signal, which also limits the maximum current to 25A.
 - Measured stability at 1.5A, assuming a 2A full scale, to be +/- 200 ppm
 - The requirement is 1900 ppm



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10 ppm Magnets

Stability QD10 (50A Full Scale)

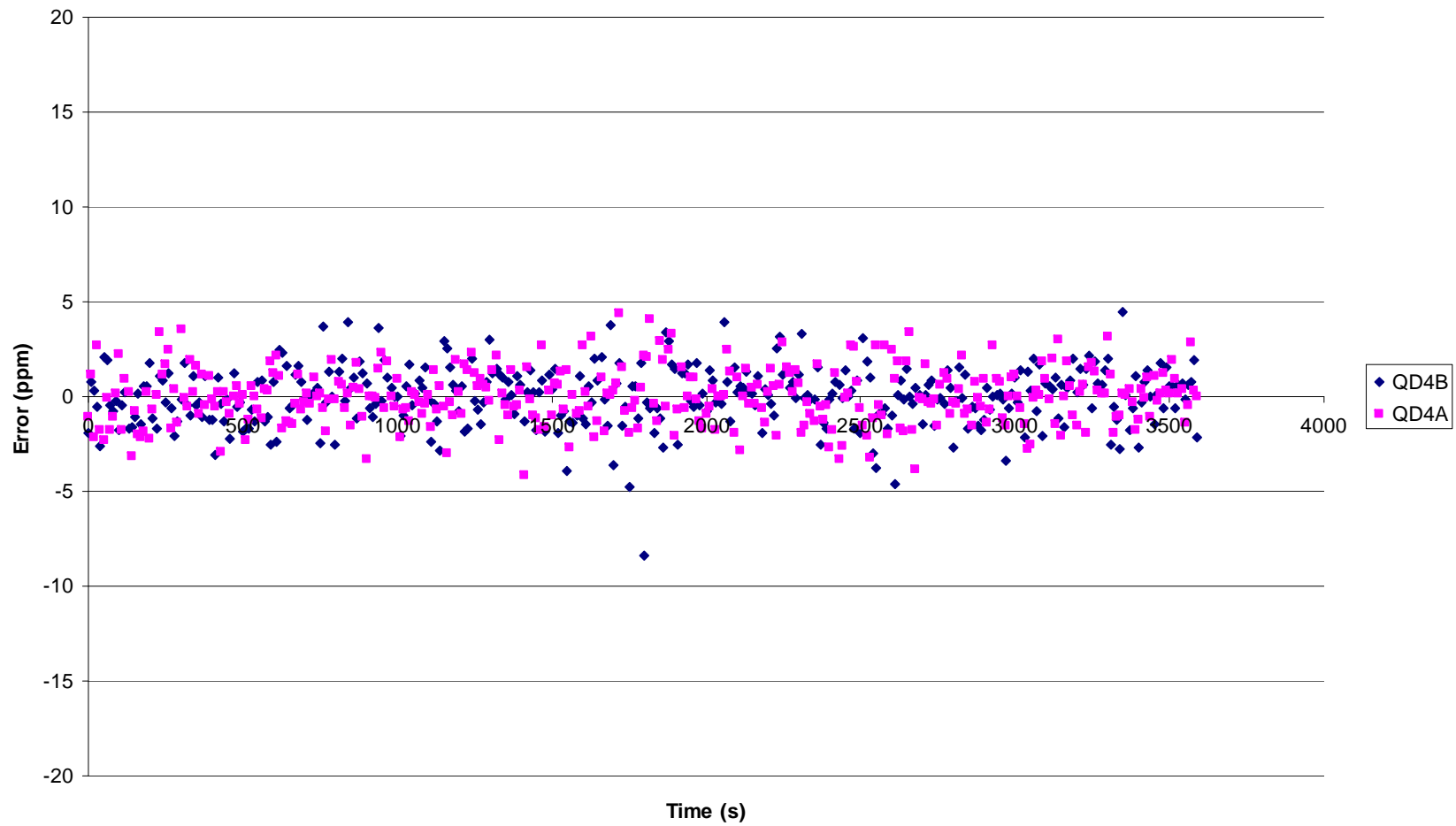




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10 ppm Magnets

Stability QD4 (50A Full Scale)

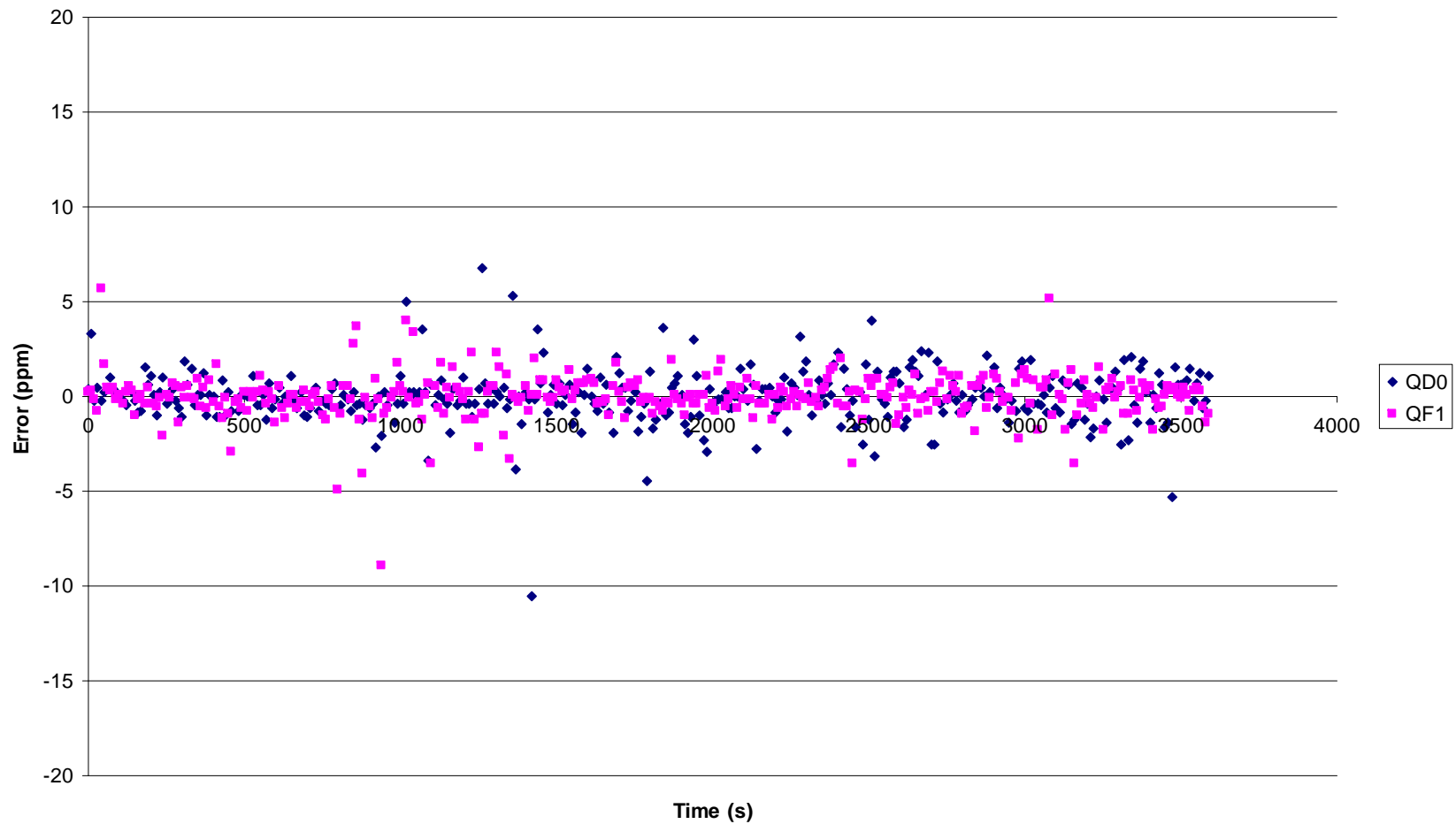




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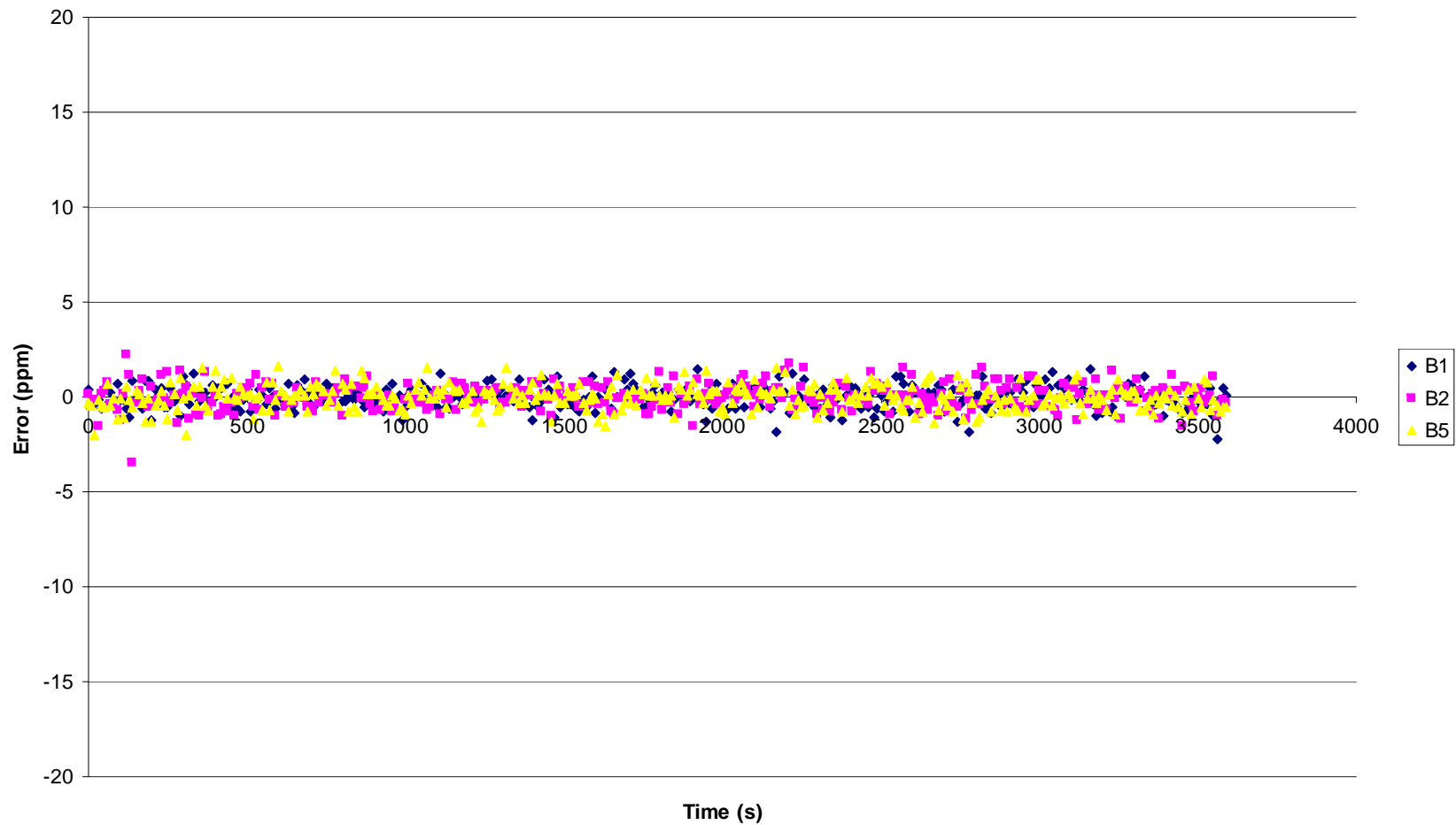
10 ppm Magnets

Stability Final Doublet Quads (200A Full Scale)





Stability Bends (200A Full Scale)





- The power supplies are commissioned and ready for operation.
- Configuration data and documentation of the systems can be found here:
 - www.slac.stanford.edu/~bri
 - <http://confluence.slac.stanford.edu/display/ATF/ATF2>