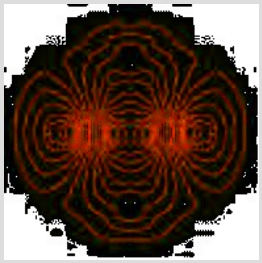
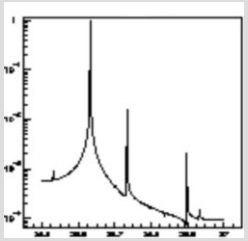
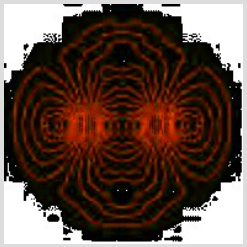


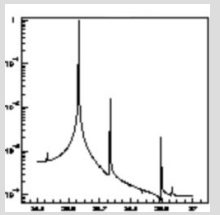
Non-linear MD

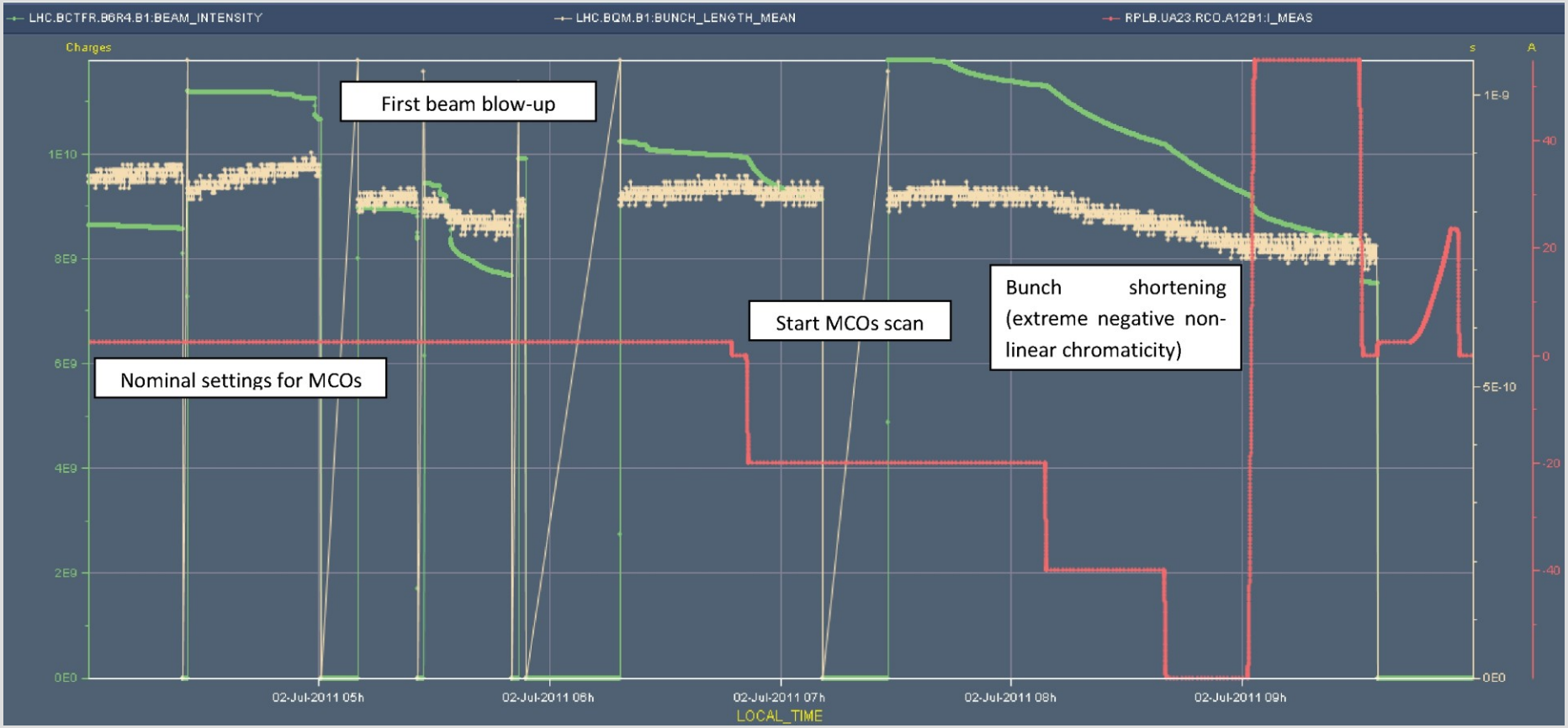


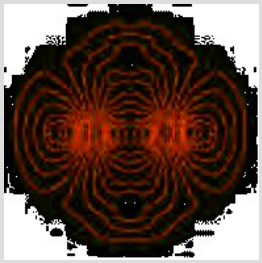
- Team: M. Albert, G. Crockford, S. Fartoukh, M. Giovannozzi, E. Maclean, A. MacPherson, R. Miyamoto, L. Ponce, S. Redaelli, H. Renshall, F. Roncarolo, F. Schmidt, R. Steinhagen, E. Todesco, R. Tomás, G. Vanbavinckhove, W. Venturini Delsolaro
- 1st MD: DA via Intensity Evolution based on Inverse logarithmic scaling law of DA established with tracking data
  - Technique: Creating Gaussian distribution and follow intensity over time with using MCOs or MCDs to make machine nonlinear
  - Machine & Tools: Beam1, MO off, probe beam, 2 μm, 1*10^{10p}, wirescanner & synchrotron light monitor, bunch length, BLM, all collimators to 12 σ
- 2nd MD: NL Chromaticity, Detuning with Amplitude, Resonance Driving Terms
  - Technique: Tune versus delta-p/p (Ralph S), Systematic kicks with Aperture kicker (MKA) & AC-Dipole, nominal + nl chrom knobs
  - Machine & Tools: Beam2, same as MD-1, BPM turn-by-turn
- Extra: Longterm Q' measurement ➔ Fidel
- Problems & Outlook
  - Gaussian not achieved with MKA ➔ transverse kicker and/or Q-kicker
  - NL chrom too large with MCO ➔ suppress 1st order effects
  - MCD missing due to injection problems 1st MD stopped at 9:30 ➔ MCD test next time
  - TCDQ left at 8 σ
  - "Real" aperture kicker with double strength 12 σ ready for Nov. 2011



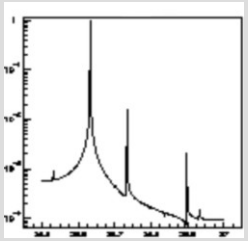
DA Measurements







Non-linear MD



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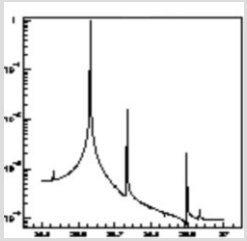
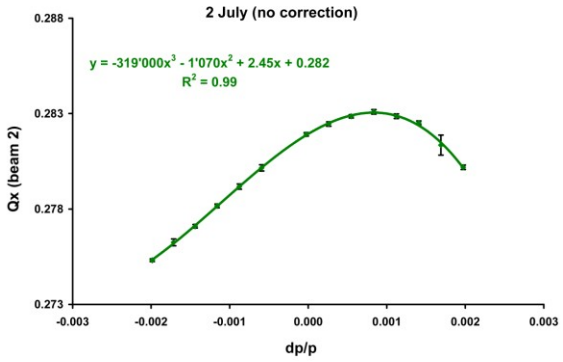
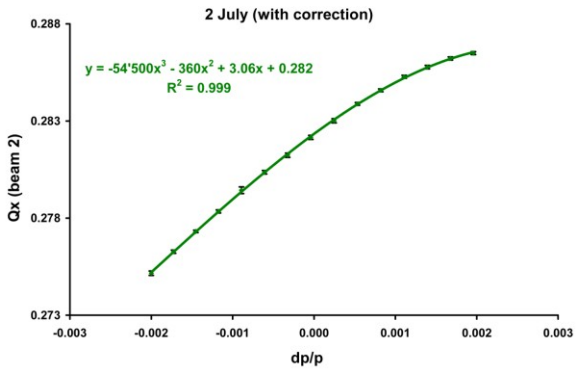
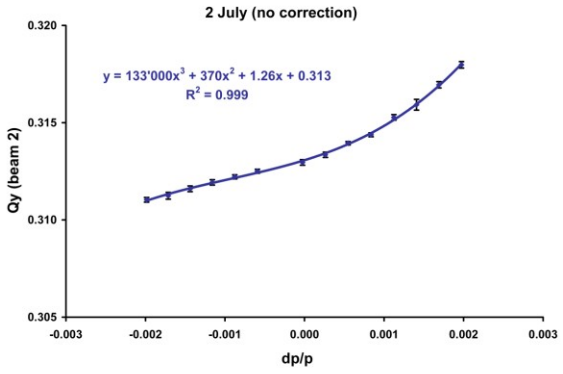
N.L. Chromaticity Measurements

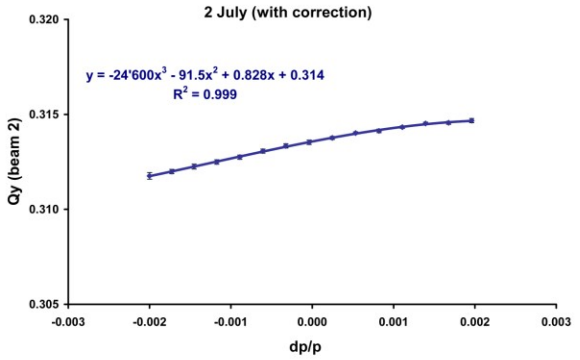
Before and after Correction

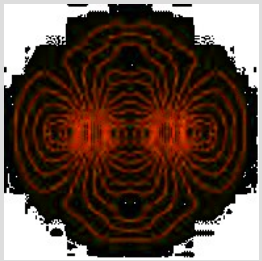




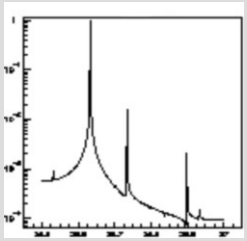


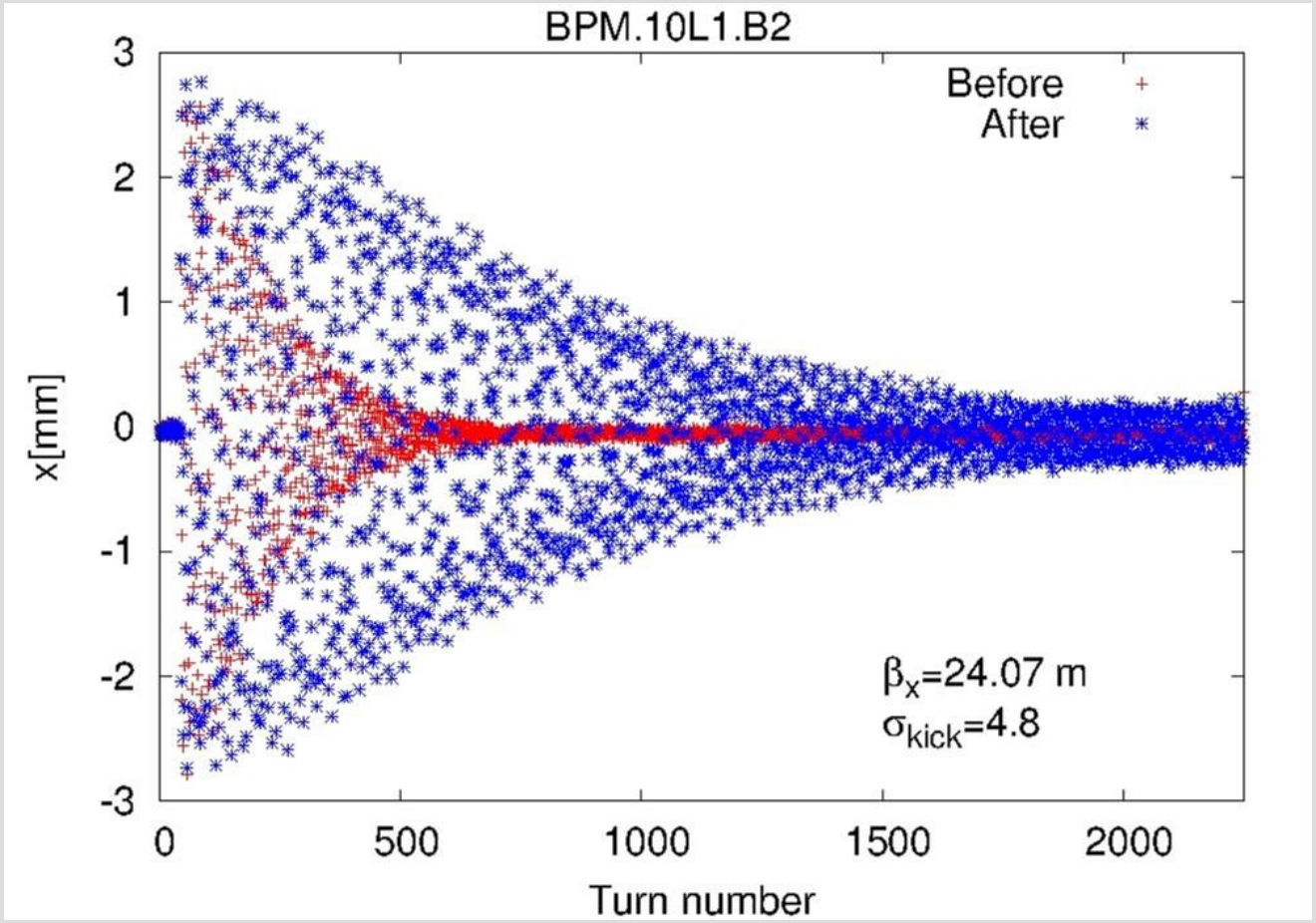


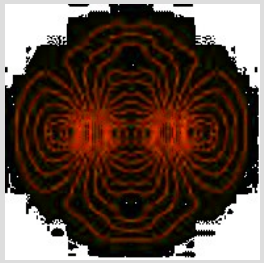




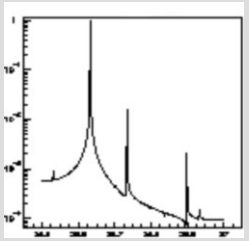
Reduction in Decoherence

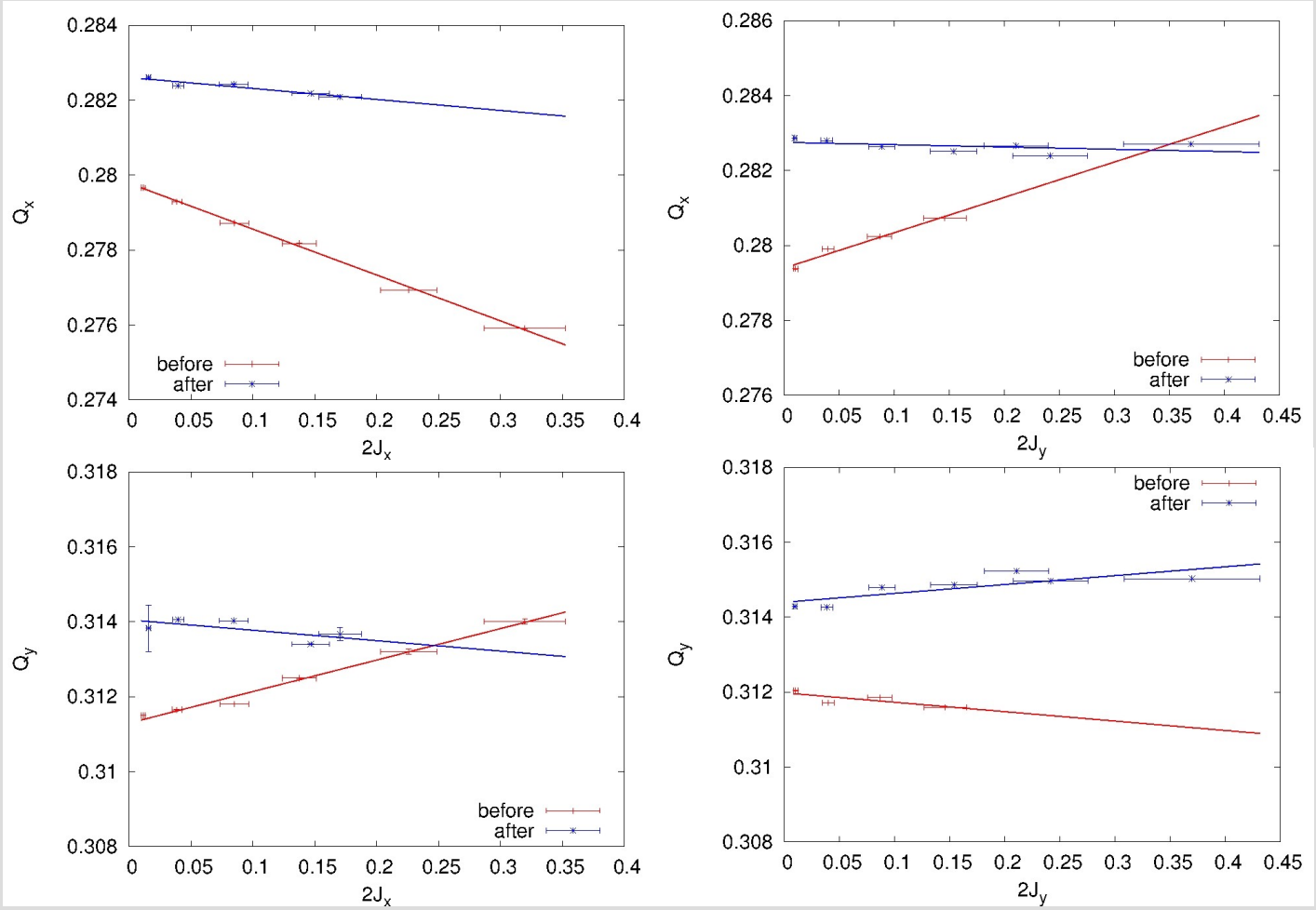


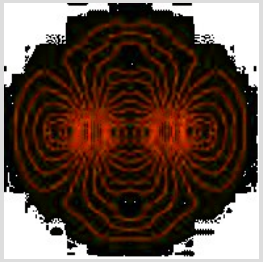




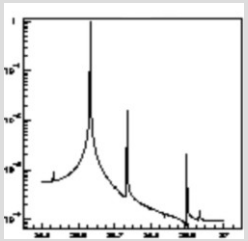
Detuning with Amplitude

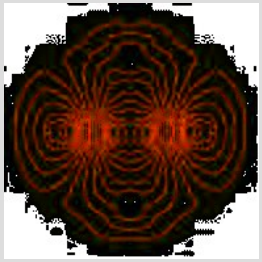






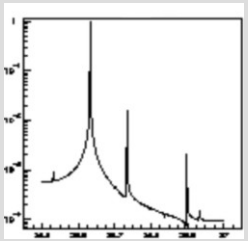
Reserve

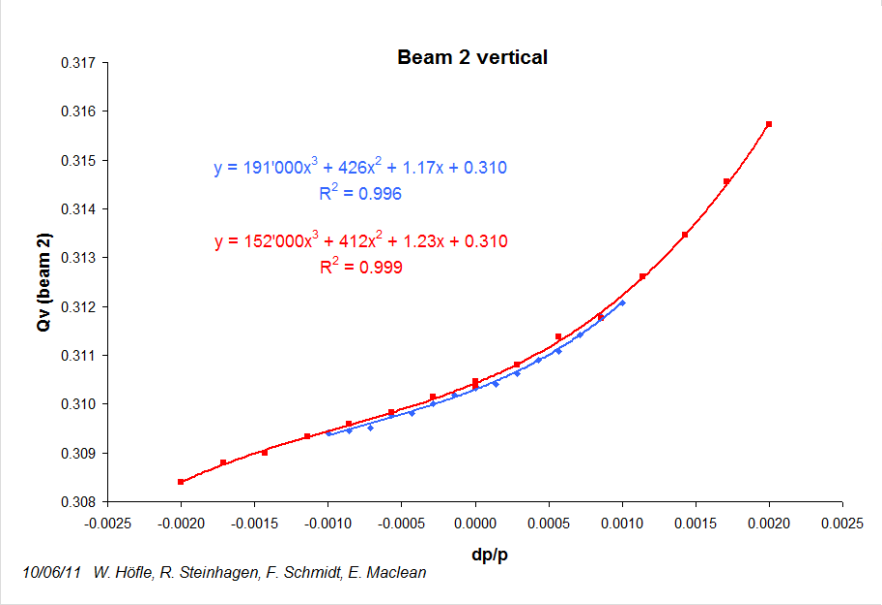


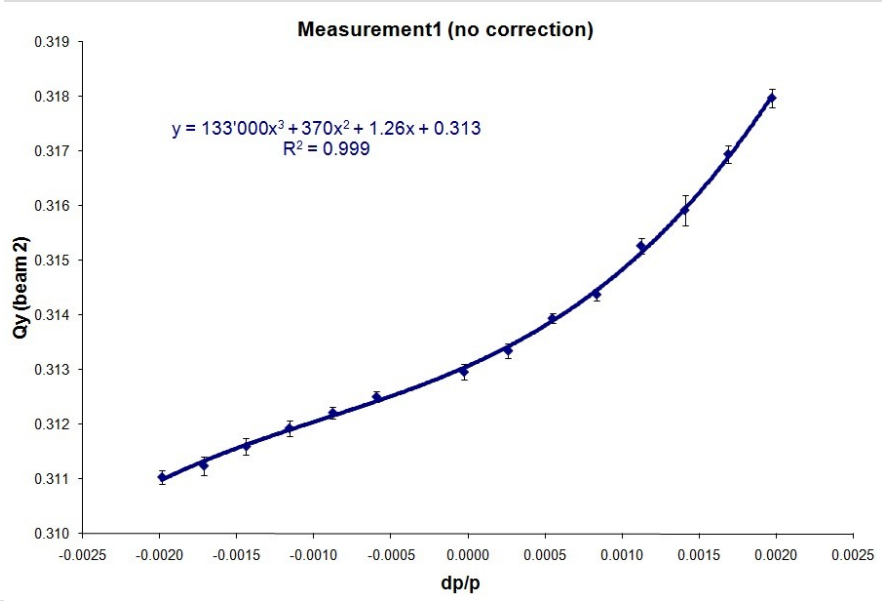


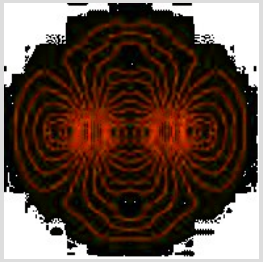
N.L. Chromaticity Measurements

3 weeks apart









N.L. Chromaticity Measurements

Currents of MCO & MCD