MAIN INJECTOR NOTES

MI-0001	"A Dispersion Mismatch Criterion for the Main Injector to Tevatron Transfer Line," R. Gerig.
MI-0002	"A Dynamic Lattice Insertion for Main Injector Extraction," R. Gerig.
MI-0003	"A New Lattice for the Main Injector," R. Gerig.
MI-0004	"Main Injector Dipole: Conductor Optimization," S. Holmes.
MI-0005	"A Magnetic Design for a Dipole with Copper on the Medial Plane," S. Snowdon.
MI-0006	"Magnetic Design of the Main Injector Dipole," S. Snowdon.
MI-0007	"A 150 GeV MI_11 to Tevatron Beamline Solution," D. Johnson.
MI-0008	"Main Injector Transition Jump," S.D. Holmes.
MI-0009	"Transition Crossing Time Shifts," S. Peggs.
MI-0010	"MI-14 Beamlines Solutions for TeV Injection, Slow Extraction, Pbar Production, and Pbar Injection," D. Johnson.
MI-0011	"MI-Transition Crossing ESME Simulation," A. Bogacz.
MI-0012	"γ _t Jump Schemes(gamma_t Jump Schemes)," S. Peggs.
MI-0013	"Eddy Current Effects in the Main Injector Beam Tube," S. Holmes.
MI-0014	"Longitudinal Emittance Growth at Transition in the Main Injector," S. Pruss, A. Ruggiero.
MI-0015	"The Effect of Various Steels on B0/D0 Dipoles," S. Pruss.
MI-0016	"RF Considerations in the Main Injector," P. Martin.
MI-0017	"Magnets," T. Collins.
MI-0018	"RF Intensity Limitations in the Main Injector," J. Griffin.
MI-0019	"A Lattice Structure for the MI with an Imaginary γ_t (A Lattice Structure for the MI with an Imaginary gamma_t)," D. Trbojevic.
MI-0020	"A Stretcher Ring in the MI Tunnel," S. Pruss, A. Ruggiero.

MI-0021	"Decapole Magnet Design Study," S. Pruss.
MI-0022	"Main Ring Decapole Content," S. Pruss.
MI-0023	"Extraction Losses from the Main Injector," C. Moore, S. Childress.
MI-0024	"Fermilab Fixed Target Beams from the Main Injector," S. Childress et al.
MI-0025	"MI_15 Kicker Specifications," D. Johnson.
MI-0026	"Main Injector Sextupole Requirements," R. Gerig. (updated 6 July 1990)
MI-0027	"Standard Ramps," P. Martin.
MI-0027A	"150 GeV and Revised 120 GeV Ramps," P.S.Martin.
MI-0028	"Main Injector Corrector Strength Analysis," R. Gerig.
MI-0029	"Main Injector RF Cycle and Z/N Limit," K-Y Ng.
MI-0030	"Some Estimation Concerning Crossing Transition of the Main Injector," K-Y Ng.
MI-0031	"Sloping the Main Injector," P.S. Martin.
MI-0032	"Dynamic Aperture with γ_t Jump (<u>Dynamic Aperture with gamma_t Jump</u>)," R. Gerig.
MI-0033	"Transition Crossing in the Main Injector-ESME Simulation," S. A. Bogacz.
MI-0034	"Proposal for MI Injection and Extraction Kickers," J. A. Dinkel.
MI-0035	"Burning up the Beampipe," J. A. Johnstone.
MI-0036	"Main Injector Dipole Magnet: 2d Field Computations," J-F Ostiguy.
MI-0037	"Eddy Current Induced Multipoles in the Main Injector," J-F Ostiguy.
MI-0038	"The Definition of α_1 : Circumference, Johnson, or ESME? (<u>The Definition of alpha 1: Circumference, Johnson, or ESME?</u>)," J. MacLachlan, K-Y Ng, S. Peggs.
MI-0039	"Main Injector Dipole Magnet: Lorentz Forces," J-F Ostiguy.

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MI-0077	"On the Calculation of Sextupole Correctors Strength in Main Injector Using TPOT," Fady A. Harfoush, 12/2/92.
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MI-0079	"Kicker Operating Margins," D. Johnson, March 3, 1993
MI-0080	"Response to Recommendation from September 1992 DOE Review, Main Injector Ring Vacuum - WBS 1.1.2.1," James A. MacLachlan, 10 March 1993.
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MI-0083	List of Abstracts/Papers Submitted to PAC93, Washington DC, May 17-20, 1993
MI-0084	<u>Transparencies from 150 GeV Line Status Review</u>
MI-0085	"New Configuration of the MI Skew Quads - Local and Global Decoupling Efficacies," Alex Bogacz, 7/23/93.
MI-0086	"A Design Study of the MI40 Beam-Abort Dump," C. M. Bhat, July 29, 1993.
MI-0087	"Radiation Shieldings for MI Culverts," C. M. Bhat, August 1, 1993.
MI-0088	"Study of the Fermilab Main Injector Lattice," C. S. Mishra, F. A. Harfoush, August 25, 1993.
MI-0089	"How the Tevatron was Aligned (1980-83)," C. Thornton Murphy, talk given at the MIAP Seminar, August 27, 1993.
MI-0090	"Resonant Charging and Pulse Sharpening for the Proton Injection Kicker: Test Results from MKS-90 Main Ring System," C. Jensen, D. Qunell.
MI-0091	"A Simplified Analysis of Resonant Extraction at the Main Injector," John A. Johnstone, September 7, 1993.

M1-0092	"Beam Loading Effects During Multi-Batch Snap Coalescing," D. Wildman.
MI-0093	"Geodesy and Alignment Concepts for the Fermi Main Injector," Virgil Bocean Geodest, Fermilab Survey, Alignment, and Geodesy Group, October 1, 1993.
MI-0094	"Radioactivity of the Closed Loop Cooling Water of the Main Injector Beam Abort Dump," C. M. Bhat, September 1993.
MI-0095	"A Numerical Simulation of Resonant Extraction," J. Johnstone, October 8, 1993.
MI-0096	"Preliminary Design of the Beam Position Detectors for the Fermilab Main Injector," E. Barsotti, Jr. and J. Crisp.
MI-0097	"FMI PCS Self Assessment Report," October 29, 1993.
MI-0098	"Beam Loading Effects for a Partially Filled MI Ring," S. A. Bogacz, November 5, 1993.
MI-0099	"Radiation Levels in the MI-60 Enclosure from Tevatron Beam Losses," C. M. Bhat, December 8, 1993.
MI-0100	" <u>Main Injector Sextupole Strength - Reassessment</u> ," S. A. Bogacz, December 1993.
MI-0101	"MIDB Users and Uses," A. D. Russell, R. Baiod, January 24, 1994.
MI-0102	"BPM Alignment Tolerance Considerations," P. S. Martin, January 7, 1994.
MI-0103	"Impedance and Instability Threshold Estimates in the Main Injector I," M. A. Martens and K. Y. Ng.
MI-0104	"Radiation Levels in the 8 GeV Beamline Arising from the Tevatron Beam Losses," C. M. Bhat, A. Russell and P. Martin, March 25, 1994.
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MI-0106	"Yt Jump Design Considerations for the Fermilab Main Injector gamma_t Jump Design Considerations for the Fermilab Main Injector," Stephen D. Holmes, APS Meeting, April 18, 1994.
MI-0107	"Low-Dispersion γ_t Jump Scheme for the Main Injector <u>Low-Dispersion gt Jump Scheme for the Main Injector</u> ," A. Bogacz and K.Y. Ng, May 2, 1994.
MI-0108	"Study of the Main Injector Quadrupole Measurement Precision," C.S. Mishra, April 14, 1994.

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MI-0110	"Study of the Long and Short Quadrupoles Strength Match," C. S. Mishra, June 30, 1994.
MI-0111	"Measurement of Main Ring Quads for Main Injector BPM Dimensions," Jim Fitzgerald, June 15, 1994.
MI-0112	"Dipole Strength Dispersion," Rachid Baiod, February 10, 1995
MI-0113	"Evaluation of Beam Coupling Due to the Dipole Current Loop," Rachid Baiod, October 28, 1994.
MI-0114	"Eddy Currents in the Main Injector Dipole Magnet Coils," Jean-François Ostiguy, July 21, 1994.
MI-0115	"Permanent Magnet Stability," Jean-François Ostiguy, June 14, 1996.
MI-0116	Skipped#
MI-0117	" <u>Initial Determination of Main Injector Quadrupole Steel Lengths</u> ," David Harding, August 5, 1994.
MI-0118	Skipped#
MI-0119	Skipped#
MI-0120	Skipped#
MI-0121	Skipped#
MI-0122	"Main Injector Era Backfeed Recommendations," Cezary Jach, November 1995
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MI-0126	"Data Analysis & Quality Control of the Fermilab Main Injector Dipoles Using the Flatcoil Measurements," C.S.Mishra, January 16, 1995.
MI-0127	"Comparing LTV & ARMCO Magnetic Steel," Jean-François Ostiguy, January 18, 1995.

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MI-0129	"Beam Heating of Vacuum Windows," John A. Johnstone, June 5, 1995.
MI-0130	"Main Injector Dipole Magnet Acceptance Criteria," C.S. Mishra, February 28, 1995.
MI-0131	"Summary Report on the MIR 20.0 Ft. Dipole Magnet Performance/Thermal Test," Arie Lipski, June 24, 1994.
MI-0132	"FE Thermal Stress Analysis of the Main Injector Dipole Coil," Eric Haggard, September 22, 1994.
MI-0133	"Electrical Modeling of Main Injector Dipole Magnets," Si Fang, March 17, 1995.
MI-0134	"Electrical Modeling of Main Injector Quadrupole Magnets," Si Fang, March 3,1995.
MI-0135	"Electrical Modeling of Main Injector Sextupole Magnets," Si Fang, February 1, 1995.
MI-0136	"Specifications for the Main Injector Horizontal Correction Elements," David Johnson, September 3, 1993.
MI-0137	"High Beta Insert for MI-like Ring," David Johnson, February 22, 1995.
MI-0138	"Recycler Ring Lattice Design with Combined Function Magnets," Dave Johnson, March 3, 1995.
MI-0139	<u>List of papers submitted to the 95 PAC, Dallas, TX, May 1-5, 1995</u> <u>List of papers submitted to the 95 PAC, Dallas, TX, May 1-5, 1995</u> .
MI-0140	"Influence of Process Parameters on the Magnetic Properties of LTV-Processed Steel Influence of Process Parameters on the Magnetic Properties of LTV-Processed Steel," Consultant, May 3, 1995.
MI-0141	Skipped #
MI-0142	"µ-Dose Level in the Vicinity of the Intersection of the 8 GeV and the AP2-Beamlines," C. M. Bhat, June 28, 1995.
MI-0143	"Design of the Beam Profile Monitor for Phase 1 of the 5 MeV Electron Cooling Test Beam Facility," Gerald Jackson, August 11, 1995.
MI-0144	"Vacuum System Design and Performance Calculations for Phase 1 of the 5 MeV Electron Cooling Test Beam Facility," Gerald Jackson, August 14, 1995.

MI-0145	" <u>Design Specifications for the 900 Dipoles for the Recycler Ring Electron Cooling Beamline</u> ," Gerald Jackson, August 14, 1995.
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MI-0147	" <u>Outline of the 5 MeV Electron Test Beam Project</u> ," Gerald Jackson, August 21, 1995.
MI-0148	"Radiation Level in the Intersection Region of AP2 and 8 GeV Beam-line due to Beam Loss in the AP2 Beam-line," C. M. Bhat and P. Martin, August 23, 1995.
MI-0149	"Thermal Tests of an Insulated Coil," P. Martin, G. Pewitt, December 14, 1995.
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MI-0152	"Thoughts on FMI Application Programming, CHEP95 and the Main Injector," C.S. Mishra, (MIAP) October 5, 1995.
MI-0153	" <u>Data Analysis and Quality Control of the Fermilab Main Injector Dipoles Using the Flatcoil Measurements</u> ," C. S. Mishra, January 16, 1995.
MI-0154	"Results of Off-Center Harmonic Measurements and Analysis," C. S. Mishra, June 30, 1995.
MI-0155	"Main Injector Dipole Magnets Placement in MI62 and MI10," C. S. Mishra, December 20, 1995.
MI-0156	"Transverse Schottky Detector for Antiproton Recycle Ring," P. J. Chou, December 18, 1995.
MI-0157	"Recycler Closed Orbit Distortion from a Systematic Mismatch Between Long and Short Combined Function Magnet Strengths," S. D. Holmes & C. S. Mishra, February 29, 1996.
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MI-0159	"RF Power Limitation on Main Injector Beam Current," J. E. Griffin, 2-3-96.
MI-0160	"Recycler Beta Function Distortions from Systematic and Random Gradient Errors in Combined Function and Quadrupole Magnets," S. D. Holmes and C. S. Mishra, April 2, 1996.

MI-0161	"Recycler Pbar Transfer Lines Recycler Pbar Transfer Lines, " Dave Johnson, March 22, 1996.
MI-0162	"Closed Orbit Effects Due to Longitudinal Bend Center Displacement," Bruce C. Brown, April 2, 1996.
MI-0163	"MI-10 Injection Layout," Dave Johnson, May 17, 1996.
MI-0164	"Stochastic Cooling of the Recycler Antiproton Stack Momentum Spread Including Intrabeam Scattering and Barrier Buckets," Gerald P. Jackson, March 29, 1996.
MI-0165	"Evaluation of Resonance Widths from Recycler Magnetic Field Multipoles," S. D. Holmes, April 3, 1996.
MI-0166	Skipped #
MI-0167	"Momentum Stacking in the Recycler," John Marriner, April 1, 1996.
MI-0168	"Filter Momentum Cooling for the Recycler," John Marriner April 5, 1996
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MI-0170	"Magnetic Field Quality Specification for Recycler Ring Combined Function and Quadrupole Magnets," S. D. Holmes, N. Gelfand, D. E. Johnson, and C. S. Mishra, July 17, 1997
MI-0171	"Impedances and Beam Stability Issues of the Fermilab Recycler Ring," King-Yuen Ng, April 1996.
MI-0172	"Chromaticity Adjustment System for the Recycler," S. D. Holmes, April 22, 1996.
MI-0173	"A Possible Strategy for Recycler Orbit Correction," S. D. Holmes, April 26, 1996.
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MI-0175	"A Low ß, High Dispersion Insert for the Recycler Ring," Norman M. Gelfand, June 19, 1996.
MI-0176	"Recycler Lattice (rrv6.)," S. Ohnuma, June 1996.
MI-0177	"Permanent Magnet Stability: Addendum," Jean-François Ostiguy, July 19, 1996.

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MI-0197	" <u>Accelerator Physics Issues</u> ," Shekhar Mishra, September 17-19, 1996 Main Injector DOE Review.
MI-0198	"Characteristics of the RRv9 Lattice as Determined from Tracking and Calculations of the Effects of the High Order Multiple Moments Listed in MI-0170," Norman Gelfand, December 5, 1996.
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MI-0203	"The Effect of Quadrupole Magnetic Fields on Main Injector BPM Measurements," Jim Crisp & Jim Fitzgerald, January 31, 1997.
MI-0204	"Measurements of the Longitudinal Shape and Center of the Magnetic Field of PDD Dipoles," Bruce C. Brown, February 17, 1997.
MI-0205	" <u>Main Injector 8 GeV Beam Line Shielding Assessment</u> ," C. M. Bhat, P. S. Martin and A. F. Leveling, February 10, 1997.
MI-0206	PAC97 Abstract List, Management of Main Injector Project.
MI-0207	"Analytic Results on Requirements for Recycler Gradient Magnet Longitudinal Uniformity," Bruce Brown, February 27, 1997 (Draft Only)
MI-0208	"Beam Line Beam Loss Monitors," Marvin Olson, March 12, 1997.
MI-0209	"Optics and Field Error Compensation in the FNAL Permanent Magnet 8.9 GeV/c Proton Transfer Line," John A. Johnstone, Presented at PAC97, May 1997
MI-0210	"Magnet Orientations in Beamlines," Dave Johnson, May 30, 1997.

MI-0211	"MI Power Supply Control Issues for Magnets with Hysteresis," Bruce C. Brown, June 26, 1997.
MI-0212	"Mirror Magnet Designs for the Recycler Ring," G. W. Foster, August 17, 1998
MI-0213	"Dynamic Aperture for the Recycler Lattices RRv16 and RRv17," Norman Gelfand, July 18, 1997.
MI-0214	"A Preliminary Analysis of Ground-Water and Surface-Water Radioactivity Around the Main Injector Extraction and Injection Regions," R. D. Swain and C. M. Bhat, November 1997.
MI-0215	Skipped #
MI-0216	"Can Magnetic Fields Assist in Radiation Shielding for 8 GeV Proton Beams," Bruce C. Brown, August 15, 1997.
MI-0217	"Shielding Assessment of F0 to Switchyard Beam Line Enclosure for MI 120 GeV Beam Transport," Chandra Bhat, September 16, 1997.
MI-0218	"Main Injector Intensity Limitations at Transition," Chandra Bhat, October 3, 1997.
MI-0219	"Ground Water, Air-Borne and Soil Activation from the Operation of the MI-40 Beam Absorber During the FMI Era," C. M. Bhat, November 12, 1997.
MI-0220	"Options for Line-of-Sight Signal Transmission of the Recycler Stochastic Cooling Systems," Gerald Jackson, October 27, 1997.
MI-0221	"Signs of Harmonics: Permanent Quad Tuning and Skew Components of Gradient Magnets," Bruce Brown, December 3, 1997.
MI-0222	"Recycler Instrumentation: Detector and Electronics Locations," G. Vogel, 12/1/97.
MI-0223	"Ferrite and Compensator Symmetry Requirements for Gradient Magnets," Bruce C. Brown, December 19, 1997.
MI-0224	"Recycler Dump Magnet Requirements," Dave Johnson and Al Russell, February 16, 1998.
MI-0225	"Main Injector and Recycler Ring Shielding Assessment," C. Bhat, P. Martin and A. Leveling, July, 1998
MI-0226	"MI BPM RF Module Test Results," G. Vogel, 1/16/98.
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MI-0227	"Magnetic Design of Recycler Ring v.18 Gradient Dipoles," G. W. Foster, January 1998.
MI-0228	Skipped #
MI-0229	"Recycler Magnet Alignment Offset," C. Gattuso, February 13, 1998.
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MI-0231	"Recycler Lambertson Magnet Configurations Main Injector Recycler Transfer Lines," interpreted by David Harding, 27 April 1998.
MI-0232	"Beam Position Monitors for the Fermilab Recycler Ring," E. Barsotti, S. Lackey, C. McClure, R. Meadowcroft, April 29, 1998.
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MI-0234	"Specifications for the Line-of-Sight Laser-Based Signal Transmission of the Recycler Stochastic Cooling Systems," Gerald Jackson, May 4, 1998.
MI-0235	"Measurement of Oscillatory Modes in the Recycler Gradient Magnet Hangers: First RGF at Location 628D," G. Jackson & C. Gattuso, May 26, 1998.
MI-0236	"Dispersion-Wave Generation of a High $\eta/\sqrt{\beta}$ Insert in the Recycler <u>Dispersion-Wave Generation of a High eta/sqrt(\beta)</u> Insert in the Recycler," John A. Johnston, May 22, 1998.
MI-0237	"Transient Measurement of the Betatron Phase Advance Around the Recycler Ring," G. P. Jackson, May 16, 1998.
MI-0238	"Recycler Commissioning Plan," G. P. Jackson, November 11,1998.
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MI-0241	"Committed Effective Dose Equivalent Calculation for Personnel Exposure to Airborne Radioactivity Produced by Main Injector Beam Loss," A. F. Leveling, July 7, 1998
MI-0242	"Effect of FO Crossover Shielding Field Change," Tony Leveling, July 21, 1998
MI-0243	" <u>Determination of Interlock Gate Locations at E35, F47, and A25,</u> " A. F. Leveling September 15, 1998

MI-0244	"Main Injector Commissioning Plan," C. S. Mishra, July 22, 1998
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