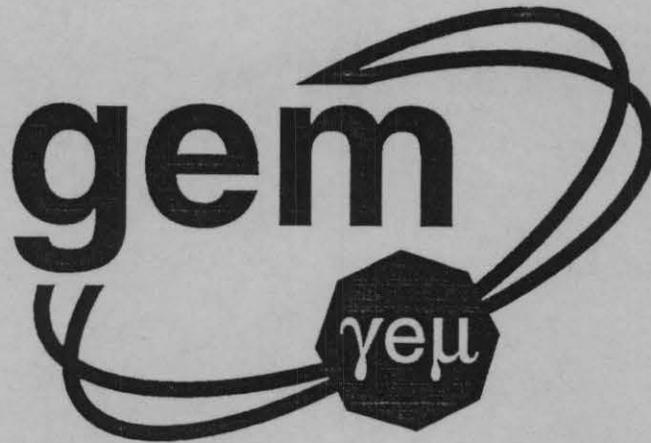


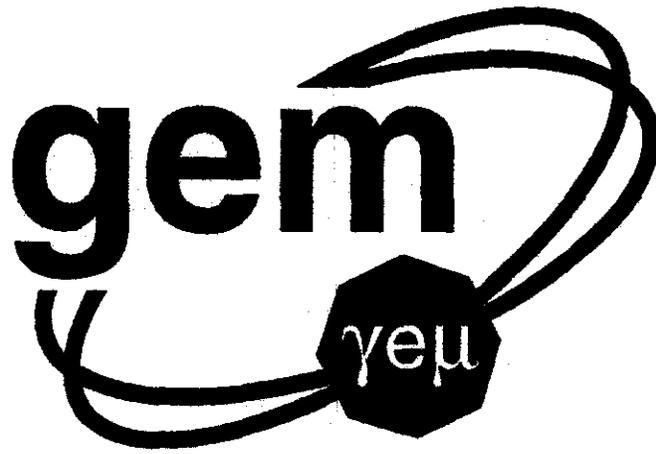
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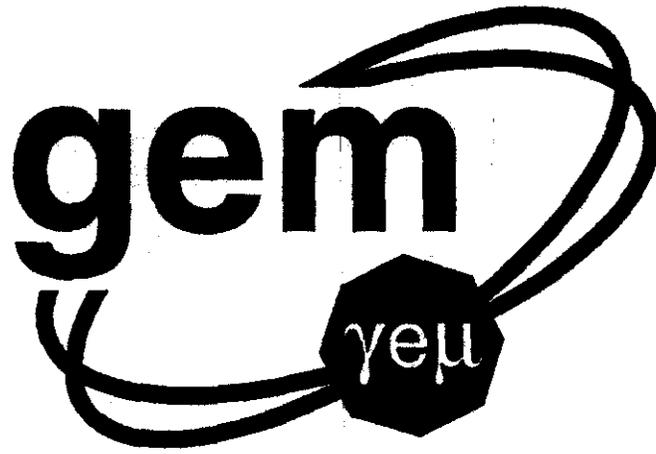
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Considerations Regarding Tube Wall Material	Ahlen, Steven Marin, Alex Zhou, Bing	3/1/92	TN-92-00096
Drift Gas Studies for GEM Muon System	Ahlen, S. Marin, A. Zhou, B.	03/01/92	TN-92-00072
Eddy Currents in Shells of Liquid Argon Cryostat During Protective Discharge of the GEM Magnet	Martovetsky, N.	04/09/92	GDT-000019
Effects of Limited Calorimeter Coverage on ET	Paige, Frank E. Vanyashin, A. V.	03/16/92	TN-92-00070
Engineering/Integration Meeting - SSCL		03/25/92	GDT-000018
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Final Safety Analysis Report: Seismic Design, Comanche Peak Steam Electric Station	Texas Utilities Generating Company	02/15/88	GGT-000003
Forward Calorimeter Transition, Z Position and Segmentation	Forden, G. E.		TN-91-00028
Fringe Field Dipole-Dipole Force Interaction	Pillsbury, Jr., R. D.	11/05/91	TN-91-00035
GEFUR Meeting		10/18/91	GCT-000002
GEM Baseline 1 Specification	Barish, Barry Harris, Mike Marx, Mike Sanders, Gary H. Willis, William	04/07/92	TN-92-00076 DRAFT
GEM Calorimeter Group Meeting - Tucson		03/08/92	TN-92-00084

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GEM Calorimeter Meeting - SSCL		01/22/92	TN-92-00057
GEM Calorimetry Meeting		10/08/1991	TN-91-00006
GEM Calorimetry Meeting		12/04/1991	TN-91-00045
GEM Calorimetry Meeting SSCL		09/04/91	TN-91-00012
GEM Calorimetry Meeting SSCL		10/01/91	TN-91-00018
GEM Calorimetry Questions and Answers		09/05/1991	TN-91-00009
GEM Central Tracker: Design Issues	Mills, Geoffrey B.	11/14/91	TN-92-00054
GEM Collaboration Council Meeting		12/05/1991	TN-91-00042
GEM Collaboration Council Meeting		07/18/1991	TN-91-00005
GEM Collaboration Council Meeting		11/07/91	TN-91-00031
GEM Collaboration Council Meeting at the SSCL		10/02/91	TN-91-00021
GEM Collaboration Council Meeting SSCL		09/05/1991	TN-91-00011
GEM Collaboration Council Meeting - SSCL		01/23/1992	TN-92-00055
GEM Collaboration Meeting - Tucson		03/08/92	TN-92-00085
GEM Computing Meeting SSCL		09/04/1991	TN-91-00014

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GEM Computing/Simulation Meeting - SSCL		01/20/92	TN-92-00059
GEM Cost Estimating Plan (LOI)	Sawicki, Richard	09/30/91	TN-91-00017
GEM Detector Cost and Design Study for Scintillating Hadron Calorimeters	Claffey, C. L. Eberle, C. C. Rennich, M. J. Singhal, M. K.	09/22/91	TN-91-00020
GEM Detector For the SSC: U.S. - Republic of Korea Working Group Meeting	Gary Sanders	04/14/92	TN-92-00089
GEM DETECTOR: Proposal for a Design Baseline		03/09/92	GDT-000015
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GEM Electronics Group Meeting		12/06/1991	TN-91-00044
GEM Electronics/Trigger/DAQ Meeting at SSCL		09/04/91	TN-91-00010
GEM Engineering Meeting		07/29/91	GDT-000001
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GEM Engineering Meeting 3		09/24/91	GDT-000004
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GEM Engineering R&D Plan FY 92 - The GEM Collaboration		11/26/91	TN-91-00034

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GEM Engineering/Integration Meeting - SSCL		01/20/92	GDT-000014
GEM Engineering/Integration Meeting - SSCL		02/18/92	GDT-000017
GEM Experimental Facilities User Requirements (GEFUR) Document	Detector Engineering Resources	11/06/91	GCT-000001
GEM Experimental Facilities User Requirements (GEFUR) Document	Detector Engineering Resources	04/01/92	GCT-000001 REV. A
GEM Forward Calorimeter Design Meeting	Fornden, G. E. Rutherford, J. P. Shaver, L. Shupe, M.	11/18/1991	TN-91-00046
GEM Letter of Intent (LOI)	GEM Collaboration	11/30/91	TN-92-00049
GEM Magnet Options: Preliminary Report	Becker, H. Diatchenko, N. Marston, P.G. Pillsbury, Jr., R.D. Sullivan, J. D. Thome, R.J.	11/25/1991	TN-91-00037
GEM Magnet Subsystem Industrial Subcontract Information Meeting		04/01/92	TN-92-00082
GEM Magnet Subsystem LOI Conceptual Design Cost Estimates	Bowes, Joel Deis, Gary Marston, Peter Minervini, Joe Yamamoto, Robert	12/12/91	IN-91-00001
GEM Magnet Technical Panel Meeting		09/04/91	GDT-000003

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GEM Muon Group Meeting - SSCL		01/24/92	TN-92-00060
GEM Muon Group Meeting - Tucson		03/08/92	TN-92-00080
GEM Muon Meeting		11/08/91	TN-92-00050
GEM Muon Meeting		11/08/91	GDT-000012
GEM Muon Meeting		07/17/91	TN-91-00002
GEM Muon Meeting SSCL		10/01/91	TN-91-00016
GEM Muon Subgroup Meeting		12/12/1991	TN-91-00043
GEM Muon System Meeting - Boston		02/06/1992	TN-92-00061
GEM Muon System Meeting Boston University		08/23/1991	TN-91-00008
GEM PAC Review		10/02/91	TN-91-00025
GEM Technical Panel Meeting	Jarvis, P. Stefanski, R.	10/10/91	GDT-000008
GEM Tracking Meeting		12/06/1991	TN-91-00047
GEM Tracking Meeting		11/05/91	TN-91-00040
GEM Tracking Meeting SSCL		01/23/92	TN-92-00053
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GEM Tracking Meeting SSCL		09/04/91	TN-91-00013
GEM Tracking Meeting SSCL		10/10/91	TN-91-00022
GEM Trigger/DAQ Group Meeting		03/08/1992	TN-92-00083

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GEM Vacuum System	Chapman, Gerry	02/03/92	GGT-000001
H \rightarrow $\mu\mu\mu\mu$ and H \rightarrow $\mu\mu e e$ Acceptance	Paige, Frank E.	03/06/92	PN-92-00005
Hα \rightarrow ZZ* \rightarrow $\lambda+\lambda-$ $\lambda+\lambda-$: Search for 140 < M$H\alpha$ < 180 GeV	Zhou, B.	05/01/92	TN-92-00103
How Thick Should the GEM Barrel Calorimeter Be?	McNeil, R.	03/10/92	TN-92-00068
IEEE Standard 754 and You: What the GEM Computer User Needs to Know About IEEE Floating-Point Arithmetic	Roberts, Lee A.	5/28/92	TN-92-00104
Independent Cost Estimate of Spaghetti Hadron Calorimeter	Ayer, F. Elder, C. Sullivan, D. Womble, E.	09/05/1991	TN-91-00007
Integration Meeting		10/15/91	GDT-000005
Intermediate Mass Higgs \rightarrow WW Decay	Yamamoto, Hiroaki	12/05/91	TN-92-00079
Ion Loading in Liquid Ionization Calorimeters	Rutherford, John P.		TN-91-00027
Jazelle Data Manager for GEM, The	Johnson, Tony	03/31/92	TN-92-00081
Jet Contributions to Et Cross Sections	Paige, Frank E.	10/07/1991	PN-91-00001
Jet-Energy Measurements with a Noncompensating Calorimeter System	Paar, H. P. Wigmans, R.	02/20/92	TN-92-00067
Lepton Triggers at the SSC	Paige, Frank E.	09/13/1991	PN-91-00004

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Liquid Argon Calorimeter Cost Review Meeting - SSCL		04/22/92	TN-92-00090
Liquid Argon Calorimeter Cost Review Meeting - SSCL		04/22/92	IN-92-00003
Measurements of Characteristics of the Precision Drift Chamber Prototype	Barabash, L. S. Frolov, V. N. Kazarinov, M. Yu. Klimov, O. L. Shabalina, E. K.		TN-91-00023
Measurements of HRS Wire Tensions 12 Years After Construction	Ahlen, S. Marin, A. Zhou, B.	03/01/92	TN-92-00075
Missing ET Signature for Gluino Production in the GEM Detector for the SSC	Kahn, Stephen A.	10/24/91	TN-92-00051
Momentum Resolution Criteria for the Central Tracker	Zhou, B.	5/1/92	TN-92-00100
Monte Carlo Studies of the Texas Test Rig Performance	Vanyashin, A. Yost, G.	5/18/92	TN-92-00099
Muon Drift Chamber Physics and Engineering R&D Activities for the L* and GEM Detectors in FY 1991	Ables, E. Bionta, R.M. Britt, H.C. Capell, M. Chargin, A.K. Deis, G.A. Fackler, O.D. et. al.	9/25/92	TN-92-00093
Muon Energy Loss in GEM BaF2/Scintillating Fiber Calorimeter	McNeil, R.	03/10/92	TN-92-00069
Muon Engineering Status Meeting - M.I.T.		05/20/92	TN-92-00106
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Occupancy and Pileup in the GEM Detector		12/12/1991	TN-91-00041
On Quality Requirements to the Barium Fluoride Crystals	Zhu, Ren-yuan	01/03/92	TN-92-00048
On Quality Requirements to the Barium Fluoride Crystals	Zhu, Ren-yuan	02/01/92	TN-92-00048 Rev. A
Physics Motivation for an Improved Tracker for GEM	Thomas, Jennifer Wang, Ed	02/19/92	TN-92-00065
Possible $H \rightarrow W+W$ -Signal for $2mW < mH < 2mZ$	Paige, Frank E.	10/07/1991	PN-91-00003
Preformance of Straw Tubes Made by Ultrasoncially Welding Two Layers of Aluminized Mylar Producing 8 Parallel Tube 1 cm in Diameter	Muzzin, V. Shukov, V.		TN-91-00024
Previous Analysis of Tracks Data in Solenoid	Yatsunenکو, Yu. A.	02/01/92	TN-92-00066
Progress Report: Neutron Flux in the GEM Detector	Lee, David M. Prael, R. E. Waters, Laurie	4/4/92	TN-92-00091
Progress Report on Design and Simulation Studies for a Tungsten and Liquid Argon Forward Calorimeter for the GEM SSC Detector	Rutherfordoord, John P. Shupe, Michael A.	10/25/1991	TN-92-00052
Radiation Damage in Large Barium Fluoride Crystals	Li, P. J. Xie, Y. Y. Zhao, Y. L. Yin, Z. W.		TN-92-00077

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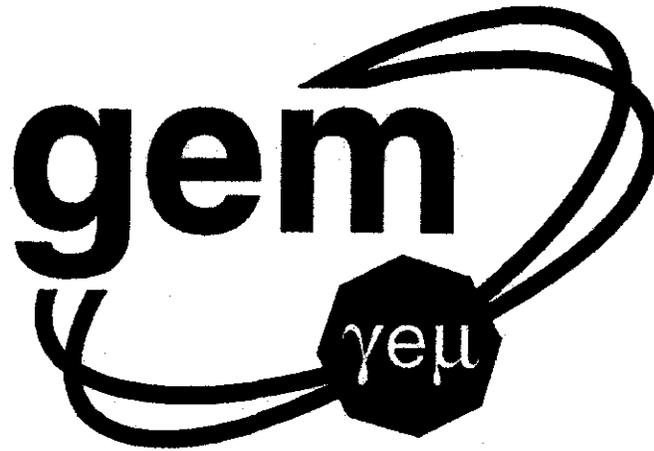
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Radiation Damage of Rare Earth Ions Doped Barium Fluoride Crystals	Chen, G. Man, S. Q. Ren, S. X. Xiao, H. Zhang, J. Q.		TN-92-00078
Report of the Third and Final Meeting of the GEM Magnet Technical Panel		10/10/91	GDT-000016
Shielding in 300 - 1000 G Background Field	Martovetsky, N. N.	05/12/92	TN-92-00098
Shielding of the Magnetic Fields from the GEM Magnet	Myatt, L. Pillsbury, Jr., R.D. Sullivan, J. D.	11/07/1991	TN-91-00036
Showershape and Preradiator Study for Higgs $\rightarrow \gamma + \gamma$ Background	Yamamoto, Hiroaki	03/28/92	TN-91-00033
Signal and Background of H \rightarrow Gamma Gamma with Proposed GEM Calorimeter Systems	Zhu, Ren-yuan	11/30/91	TN-91-00032
Simulation Studies of Liquid Argon and Liquid Ekypton Electronmagnetic Calorimeter Plate Designs for the GEM SSC Detector	Shupe, Michael A.		TN-91-00026
Simulations of Accordion EM Calorimeters	Ma, Hong	4/27/92	TN-92-00092
SSC GEM Magnetic Field Safety & Health Effects	Woolley, R. P.	09/22/91	TN-91-00019
Study of Hadron Punchthrough and Muon Rates at the SSC Yuan-Hann Chang	Chang, Yuan-Hann Zhou, B.	05/01/92	TN-92-00101
Subsystem Integration Meeting Minutes		10/24/91	GDT-000007

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Summary of the GEM Cost Estimate Status		12/15/91	IN-91-00002
The GEM Central Tracker: A Progress Report	Baltay, Charles	02/01/92	TN-92-00063
The Mylar Straw Tubes: Test Results and Applications to Muon Tracking	Chirikov-Zorin, I. Gapienko, V. Khasins, D. Larichev, A. Puchov, O. Zajz, V. Zhukov, V.	05/28/92	TN-92-00105
This number was not used.			GDT-000009
This number was not used.			GDT-000010
This number was not used.			GDT-000011
tt Lepton Triggers	Paige, Frank E.	10/07/1991	PN-91-00002
Unassigned			TN-92-00086
Users Requirements Document Perparation Memorandum	Harris, Mike	02/14/92	GGT-000002
Wire Positioning Accuracy Based on Knowledge of Wire Tension	Ahlen, S. Marin, A. Zhou, B.	03/01/92	TN-92-00074
Workshop on Vibrational Control and Dynamic Alignment Issues at the SSC	Eberle, Cliff Johnson, Coleman	02/11/92	TN-92-00064



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GDT-000007 10/24/91
Subsystem Integration Meeting Minutes

GDT-000008 10/10/91
GEM Technical Panel Meeting
Jarvis, P.

ACTUAL DATES -- 10/10/91 - 10/11/91

GDT-000009
This number was not used.

GDT-000010
This number was not used.

GDT-000011
This number was not used.

GDT-000012 11/08/91
GEM Muon Meeting

This document number was changed to TN-92-00050.

GDT-000013 11/20/91
GEM Engineering/Integration Meeting SSCL

Actual Dates: 11/20/91 - 11/21/91

GDT-000014 01/20/92
GEM Engineering/Integration Meeting - SSCL

Transparencies and minutes of the GEM Engineering/Integration Meeting held at the SSCL on January 20 and 21, 1992.

Actual Dates: 01/20/92-01/21/92

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GDT-000015

03/09/92

GEM DETECTOR: Proposal for a Design Baseline

This document proposes changes to the GEM detector proposed in the LOI. These changes could become the basis for a new baseline. Also addressed are cost impacts of changes to the LOI and a list of major issues to be resolved at or following the Tuscon meeting.

Following the GEM Collaboration meeting in Tuscon, this document will be expanded to contain the controlled baseline configuration.

GDT-000016

10/10/91

Report of the Third and Final Meeting of the GEM Magnet Technical Panel

This is the third and final meeting of the GEM Magnet Technical Panel that studied issues related to the technical credibility of the GEM solenoidal magnet concept, the cost estimate, proposed schedule, and operational issues.

GDT-000017

02/18/92

GEM Engineering/Integration Meeting - SSCL

Agenda, transparencies and attenders of the GEM Integration/Engineering Meeting held at the SSCL on February 18 and 19, 1992. The following agenda items were covered: GEM User Requirements Document and Facilities Update; System Parameters and Data Base; Schedule for Next Cost Estimate Book, Detector Baseline Update and Preparation for Tuscon; and Future Work and Fund Distribution.

GDT-000018

03/25/92

Engineering/Integration Meeting - SSCL

Agenda, transparencies and attenders of the GEM Integration/Engineering Meeting held at the SSCL on March 25, 1992. The following agenda items were covered: Baseline 1 Closeout Discussions; Magnet Design Progress; Muon Design Progress; Calorimeter Design Progress; Tracker Design Progress; Schedule Update; GEFUR Progress; Latest Surface Facilities Internal Layouts; and Other Business.

GDT-000019

04/09/92

Eddy Currents in Shells of Liquid Argon Cryostat During Protective Discharge of the GEM Magnet

Martovetsky, N.

This memo contains results of estimation of effects regarding the eddy currents, induced in concentric shell structures in GEM detector during protective discharge, particularly in shells of vacuum vessel and cryostat with liquid Ar in hadron calorimeter. This memo gives rough evaluation of the forces, generated in shell structures carrying eddy currents and discusses heat generation in those structures during protective discharge.

Memorandum

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GDT-000020 04/27/92

Engineering/Integration Meeting - SSCL

Agenda, attenders, minutes, and transparencies of the GEM Engineering/Integration Meeting held at the SSCL on April 27 and 28, 1992. Agenda items: General Information; Surface Facilities Update; Magnet Assembly Sequence and Facility Impact; Muon Assembly Facility; Calorimeter Assembly Sequence; Underground Facility; Schedules; Tracker Update; Calorimeter Schedule Considerations; Explained the Current GEMAG Schedule; and Water Cooling Considerations.

Actual dates April 27 & 28, 1992.

GGT-000001 02/03/92

GEM Vacuum System

Chapman, Gerry

GEM Vacuum System.

GGT-000002 02/14/92

Users Requirements Document Perparation Memorandum

Harris, Mike

Memorandum confirming intentions to produce the GEM Users Requirements Document by March 3, 1992.

GGT-000003 02/15/88

Final Safety Analysis Report: Seismic Design, Commanche Peak Steam Electric Station

Texas Utilities Generating Company

This is the seismic design section extracted from the larger final safety analysis report for the Commanche Peak nuclear generating station located near the Superconducting Super Collider. Presented are nomograms for horizontal and vertical ground motion for a range of seismic activity parameters. These data were used for structural design of the nuclear generating station.

IN-91-00001 12/12/91

GEM Magnet Subsystem LOI Conceptual Design Cost Estimates

Bowes, Joel

Requires GEM Project Manager approval for distribution.

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IN-91-00002 12/15/91

Summary of the GEM Cost Estimate Status

Requires GEM Project Manager approval for distribution.

IN-92-00003 04/22/92

Liquid Argon Calorimeter Cost Review Meeting - SSCL

Transparencies of the presentations at the April 22, 1992 Liquid Argon Calorimeter Cost Review Meeting. Agenda items were: Resolution vs. Angle, Thickness; Status of Engineering; Cost Estimate; R&D Issues; Foreign Contribution Models; Preradiator; and Separate EM, EM+Forward.

This Document Number was changed from GEM TN-92-00090

PN-91-00001 10/07/1991

Jet Contributions to E_T Cross Sections

Paige, Frank E.

QCD jets can contribute to missing transverse energy E_T both because of neutrinos from heavy quarks and because jets are missed at large η or mismeasured. These effects are estimated using a simple model.

PN-91-00002 10/07/1991

$t\bar{t}$ Lepton Triggers

Paige, Frank E.

A threshold $p_T \geq 4$ - GeV is appropriate for studying $t\bar{t}$ events.

PN-91-00003 10/07/1991

Possible $H \rightarrow W+W-$ Signal for $2m_W < m_H < 2m_Z$

Paige, Frank E.

A possible signature $H \rightarrow W+W- \rightarrow e\pm \mu \pm X$ for $2m_W < m_H < 2m_Z$ is considered.

PN-91-00004 09/13/1991

Lepton Triggers at the SSC

Paige, Frank E.

The dominant sources of prompt leptons at the SSC are decays of c and b quarks in QCD jets, W decays, and top decays. It is important to be able to set the trigger thresholds low enough to be able to study physics just beyond the reach of the Tevatron.

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- PN-92-00005 03/06/92
H \rightarrow $\mu\mu\mu$ and H \rightarrow $\mu\mu e$ Acceptance
Paige, Frank E.
The loss of acceptance for Higgs events from a gap at $\eta = 0$ in the muon coverage is calculated.
- TN-91-00001 07/08/1991
An Expression of Interest to Construct a Major SSC Detector
- TN-91-00002 07/17/91
GEM Muon Meeting
Transparencies and contributions to the Second Muon Meeting held at the SSCL on July 17, 1991.
- TN-91-00003 07/19/91
GEM Tracking Meeting SSCL
Transparencies, contributions and list of participants to the Second Tracking Meeting held at the SSCL on July 19, 1991.
- TN-91-00004 09/04/91
GEM Computing Meeting SSCL
Agenda, minutes, and available transparencies of the meeting.
- TN-91-00005 07/18/1991
GEM Collaboration Council Meeting
Attendees and transparencies of the GEM Collaboration Council Meeting held at the SSCL on July 18, 1991.
- TN-91-00006 10/08/1991
GEM Calorimetry Meeting
Transparencies from the Calorimetry Meeting held at the SSCL on August 8 and 9, 1991.

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TN-91-00007

09/05/1991

Independent Cost Estimate of Spaghetti Hadron Calorimeter

Ayer, F.

The Draper Laboratory Inc. is providing independent estimates of the costs to build a scintillating fiber Hadron calorimeter for the Gamma Ray, Electron and Muon (GEM) detector. The estimates are a result of earlier studies of the TEXAS and Empact/TEXAS calorimeters, as well as quotes from vendors, and a careful examination of the calorimeter design, fabrication, assembly and testing requirements. An attempt was made to explore design modifications and opportunities to reduce the total cost of the calorimeter. In this report, 3 alternatives were evaluated yielding costs of \$77M, \$68M and \$57M. As the cost is reduced; design, fabrication and material selections affect design complexity and implementation issues that are accounted for by different labor estimates. Contingencies of 10% on materials and 25% on other costs (since they are more difficult to estimate) have been used.

TN-91-00008

08/23/1991

GEM Muon System Meeting Boston University

Transparencies from the Muon System Meeting held at Boston University on August 23, 1991.

TN-91-00009

09/05/1991

GEM Calorimetry Questions and Answers

Proponents of candidate calorimetry technologies respond to questions and concerns.

TN-91-00010

09/04/91

GEM Electronics/Trigger/DAQ Meeting at SSCL

Transparencies and contributions from the Electronics/Triggering/Data Acquisition Meeting held at the SSCL on September 4, 1991.

TN-91-00011

09/05/1991

GEM Collaboration Council Meeting SSCL

Transparencies from the GEM Council Meeting at the SSCL on September 5, 1991 are presented.

TN-91-00012

09/04/91

GEM Calorimetry Meeting SSCL

Transparencies and contributions from the GEM Calorimetry Meeting held at the SSCL September 4 and 6, 1991 are presented. A separate volume, GEM TN-91-00009, "GEM Calorimetry Questions and Answers," contains proponents' responses to the questions posed by other people.

Actual Dates: 09/04/91 - 09/06/91

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- TN-91-00013 09/04/91
GEM Tracking Meeting SSCL
Transparencies, contributions, and a list of participants to the GEM Tracking Meeting held at the SSCL on September 4, 1991.
- TN-91-00014 09/04/1991
GEM Computing Meeting SSCL
Agenda, minutes, and available transparencies of the meeting.
- TN-91-00015 09/12/91
Comparisons of EM Calorimetry for GEM
Baltay, Charles
In this note we attempt to make an electromagnetic calorimetry comparison for the process $H_0 \rightarrow \gamma\gamma$ that is independent of concerns about cuts and backgrounds.
- TN-91-00016 10/01/91
GEM Muon Meeting SSCL
Transparencies from the GEM Muon Meeting held at the SSCL on October 1, 1991.
- TN-91-00017 09/30/91
GEM Cost Estimating Plan (LOI)
Sawicki, Richard
This document describes the format and procedures to be used to develop the GEM cost estimate for the Letter of Intent. This is intended to be the document which instructs the GEM "subsystem engineers" in their responsibilities for the LOI cost estimate. The Work Breakdown Structure (WBS) is defined as the highest levels and guidelines are given for completing it at lower levels by subsystem. Then the matrix to be used for accumulating the cost estimate is explained in detail. Labor rates and the procedure for setting contingencies are then described. Finally, the overall (short!) schedule for the cost estimate effort is given.
- TN-91-00018 10/01/91
GEM Calorimetry Meeting SSCL
Transparencies from the Calorimetry Meeting held as the SSC Laboratory on October 1, 1991.

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TN-91-00019

09/22/91

SSC GEM Magnetic Field Safety & Health Effects

Woolley, R. P.

This report focuses upon the safety concerns associated with the fringe magnetic field, generated by the unshielded GEM Detector design. The report's purpose is to present the GEM Collaboration and SSC Directorial management with the regulatory requirements, and background information on human and equipment fringe field effects. Safety issues associated with the effects of the magnetic field upon personnel and equipment will be discussed, with the applicable regulatory requirements noted. The intent then is for SSC management to determine the nature and extent of application of the appropriate safeguarding, in mitigating the risk.

TN-91-00020

09/22/91

GEM Detector Cost and Design Study for Scintillating Hadron Calorimeters

Claffey, C. L.

Preliminary cost estimates for the GEM Scintillating Hadron Calorimeter Option are given. The overall goal of these estimates is to meet the standards established by the Theriot panel in earlier reviews. This is in order to enable the calorimeter subsystem group to make decisions as the basis of costs which will be used in the PAC review process after the submission of the GEM LOI.

TN-91-00021

10/02/91

GEM Collaboration Council Meeting at the SSCL

Transparencies from the GEM Council Meeting at the SSCL on October 2, 1991 are presented.

TN-91-00022

10/10/91

GEM Tracking Meeting SSCL

Transparencies, contributions and list of participants to the Tracking Meeting held at the SSCL on October 10, 1991.

TN-91-00023

Measurements of Characteristics of the Precision Drift Chamber Prototype

Barabash, L. S.

Details of the construction of a precision drift chamber prototype is described. Accurate placement of the wires are discussed.

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TN-91-00024

Performance of Straw Tubes Made by Ultrasonically Welding Two Layers of Aluminized Mylar Producing 8 Parallel Tube 1 cm in Diameter

Muzzin, V.

Figures showing the measured performance characteristics of ultrasonically welded straw tubes are given.

TN-91-00025

10/02/91

GEM PAC Review

Transparencies from the GEM PAC Review at the SSCL on October 2, 1991 are presented.

TN-91-00026

Simulation Studies of Liquid Argon and Liquid Ekypton Electronmagnetic Calorimeter Plate Designs for the GEM SSC Detector

Shupe, Michael A.

TN-91-00027

Ion Loading in Liquid Ionization Calorimeters

Rutherford, John P.

TN-91-00028

Forward Calorimeter Transition, Z Position and Segmentation

Forden, G. E.

TN-91-00029

Calorimeter e/h Effects on Reconstructing High Pt W/Z Hadrons

Forden, G. E.

The effect of different calorimeter intrinsic e/h values is investigated for reconstructing high Pt W/Z -- hadrons. The boson's width is found, to first order, to be independent of e/h but a systematic shift is found in the construction mass. This shift is Pt (Z0) dependent and is comparable to cone size effects.

TN-91-00030

Consideration Leading to the Choice of Open Field Magnet

Stroynowski, R.

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TN-91-00031

11/07/91

GEM Collaboration Council Meeting

TN-91-00032

11/30/91

Signal and Background of H- \rightarrow Gamma Gamma with Proposed GEM Calorimeter Systems

Zhu, Ren-yuan

This report summarizes main results of a study on signal and background for H $\rightarrow \gamma\gamma$ detection at SSC by using two precision electromagnetic calorimeter options (BaF2 and liquid argon) proposed by GEM collaboration. The consequence of thermal as well as pile-up noise in isolation cone is discussed. A brief discussion of intermediate mass Higgs detection by using associated production channel $H_{tt} \rightarrow \lambda\gamma\gamma$ is also given.

TN-91-00033

03/28/92

Showershapes and Preradiator Study for Higgs $\rightarrow \gamma + \gamma$ Background

Yamamoto, Hiroaki

In order to observe a clear signal of low mass Higgs with mass around 80 to 140 GeV, it is very important to reject fake isolated γ s. In this note, the showershapes distributions and preradiator signals in the BaF2 are studied to reduce these fake isolated γ s.

TN-91-00034

11/26/91

GEM Engineering R&D Plan FY 92 - The GEM Collaboration

TN-91-00035

11/05/91

Fringe Field Dipole-Dipole Force Interaction

Pillsbury, Jr., R. D.

TN-91-00036

11/07/1991

Shielding of the Magnetic Fields from the GEM Magnet

Myatt, L.

The shielding of the magnetic fields produced by the GEM magnet are described in the memorandum.

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TN-91-00037

11/25/1991

GEM Magnet Options: Preliminary Report

Becker, H.

A strawman muon detector geometry is used in the evaluation of various designs for the GEM magnet. The Muon track resolution for the EOI baseline magnet (superconduction solenoid with thick iron end poles) is compared with an option with modified end poles (the LoI baseline), and with a uniform field. Design magnet options to improve muon resolution at small angles ($1.5 \leq h \leq 2.5$) include the replacement of the iron poles with a superconducting "bottle" solenoid and/or the addition of conical shells (wedges) of iron for field shaping. Because of concern about the far (surface) field, shielded variants which use either a superconducting outer solenoid or an iron flux return are also presented.

TN-91-00038

12/04/1991

A Report on Radiation Damage in Barium Fluoride to the GEM Collaboration

Woody, Craig L.

This report attempts to summarize the current status of what is known about radiation damage in barium fluoride crystals and how it relates to a high resolution electromagnetic calorimeter at the SSC.

TN-91-00039

11/06/1991

GEM Calorimeter Meeting SSCL

Agenda and transparencies contributed to the GEM Calorimeter Meeting held on November 6, 1991 at the SSCL.

TN-91-00040

11/05/91

GEM Tracking Meeting

TN-91-00041

12/12/1991

Occupancy and Pileup in the GEM Detector

Rates and detector occupancies for each GEM Detector Subsystem are estimated and summarized.

TN-91-00042

12/05/1991

GEM Collaboration Council Meeting

Agenda and transparencies contributed to the GEM Collaboration Council Meeting held on December 5, 1991.

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- TN-91-00043 12/12/1991
GEM Muon Subgroup Meeting
Agenda, list of participants, and transparencies contributed to the GEM Muon Subgroup Meeting held on December 12, 1991.
- TN-91-00044 12/06/1991
GEM Electronics Group Meeting
Agenda, list of participants, and transparencies contributed to the GEM Electronics Group Meeting held on December 6, 1991.
- TN-91-00045 12/04/1991
GEM Calorimetry Meeting
Agenda and transparencies contributed to the GEM Calorimetry Meeting held on December 4, 1991.
- TN-91-00046 11/18/1991
GEM Forward Calorimeter Design Meeting
Forden, G. E.
Agenda, list of participants, and transparencies contributed to the Forward Calorimeter Design Meeting held at the SSCL on November 18, 1991.
- TN-91-00047 12/06/1991
GEM Tracking Meeting
Transparencies from the Tracking Meeting held at the SSCL on December 6, 1991. Included are gas studies results from Indiana, Silicon Tracker design assumptions from Los Alamos and simulation results from Yale and Los Alamos.
- TN-92-00048 01/03/92
On Quality Requirements to the Barium Fluoride Crystals
Zhu, Ren-yuan
Barium flouride (BaF₂) crystal calorimeter is one of two options being pursued by the GEM collaboration as a candidate precision electromagnetic calorimeter. This report summarizes the considerations on quality requirements to the BaF₂ crystals.
This document is superseded by TN-92-00048 Rev. A.

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TN-92-00048 Rev. A

02/01/92

On Quality Requirements to the Barium Fluoride Crystals

Zhu, Ren-yuan

Barium flouride (BaF₂) crystal calorimeter is one of two options being pursued by the GEM collaboration as a candidate precision electromagnetic calorimeter. This report summarizes the considerations on quality requirements to the BaF₂ crystals.

TN-92-00049

11/30/91

GEM Letter of Intent (LOI)

GEM Collaboration

TN-92-00050

11/08/91

GEM Muon Meeting

Agenda, list of participants, and transparencies contributed to the Muon Meeting held at the SSCL on November 8, 1991.

This document was originally issued as GDT-000012

TN-92-00051

10/24/91

Missing ET Signature for Gluino Production in the GEM Detector for the SSC

Kahn, Stephen A.

The feasibility of looking for gluino pair production at the SSC with the GEM detector is examined. If the gluino mass is lighter than the quark mass, gluino production would have the largest cross section of a SUSY signature. This study compares rates for production of 300 GeV gluinos with background from QCD and Z₀ production. The background to 300 GeV gluinos from QCD is expected to be large, however with reasonable cuts a signal to noise ratio of 5 : 1 is achieved for 150 < ET < 300 GeV.

TN-92-00052

10/25/1991

Progress Report on Design and Simulation Studies for a Tungsten and Liquid Argon Forward Calorimeter for the GEM SSC Detector

Rutherford, John P.

GEM is exploring the feasibility of satisfying hermeticity requirements with a relatively compact forward calorimeter quite close to the interaction region. This report explores whether the physics requirements can be met through realistic simulations.

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TN-92-00053

01/23/92

GEM Tracking Meeting SSCL

Transparencies from the Tracking Meeting held at the SSCL on January 23, 1992. Included are preliminary specifications for the IPC array, cooling for the IPC's and front end electronics for the IPC. There is a silicon tracer update, simulations results from Yale and Los Alamos, and a section on integration issues.

TN-92-00054

11/14/91

GEM Central Tracker: Design Issues

Mills, Geoffrey B.

A discussion of design issues of the GEM central tracker is given. General features of the tracker performance are discussed in the context of the SSC environment at luminosities of $1033\text{cm}^{-2}\text{s}^{-1}$ and $1034\text{cm}^{-2}\text{s}^{-1}$.

TN-92-00055

01/23/1992

GEM Collaboration Council Meeting - SSCL

Transparencies and agenda of the GEM Collaboration Council Meeting held at the SSCL on January 23, 1992.

TN-92-00056

01/24/92

GEM Calorimeter Meeting - SSCL

Transparencies and agenda of the GEM Calorimeter Meeting on Central Calorimeter Systems held at the SSCL on January 24, 1992.

TN-92-00057

01/22/92

GEM Calorimeter Meeting - SSCL

Transparencies and agenda of the GEM Calorimeter Meeting on Preradiator and Forward Systems held at the SSCL on January 22 and 24, 1992.

Actual Dates: 01/22/92-01/24/92

TN-92-00058

01/22/92

GEM Muon Group Meeting - SSCL

Transparencies and agenda of the GEM Muon Subgroup Meeting held at the SSCL on January 22, 1992.

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TN-92-00059 01/20/92

GEM Computing/Simulation Meeting - SSCL

The Physics group's menu of physics reactions were presented, along with a list of desired single particle types for which parameterizations were desired for fast physics simulations. The subsystem simulation groups worked out sets of parameters which could be provided to the physics group. The simulation groups also gave status reports, and other issues (coding standards and methods, "GEMLIB", and PDSF upgrade) were discussed.

Actual Dates: 01/20/92 - 01/21/92

TN-92-00060 01/24/92

GEM Muon Group Meeting - SSCL

Transparencies and agenda for the GEM Muon Group Meeting on January 24, 1992 held at the SSCL.

TN-92-00061 02/06/1992

GEM Muon System Meeting - Boston

Transparencies and agenda from the GEM Muon System Meeting on February 6, 1992, held in Boston.

TN-92-00062 02/18/92

Computing Facility Placement Issues, Arguments, Conclusions, and Comments

McFarlane, Ken

Number issued to Ken McFarlane. Document has not been received and distributed.

TN-92-00063 02/01/92

The GEM Central Tracker: A Progress Report

Baltay, Charles

The GEM Central Tracker group now has arrived at a new baseline design which employs Silicon Microstrips for the inner detector and Interpolating Pad Chambers for the outer tracker. This baseline design is described in this Progress Report in some detail.

Number issued to Charles Baltay. The document has not been received from him.

TN-92-00064 02/11/92

Workshop on Vibrational Control and Dynamic Alignment Issues at the SSC

Eberle, Cliff

Report to GEM on the Workshop on Vibrational Control and Dynamic Alignment Issues at the SSC

Actual Dates: 02/11/92 - 02/14/92

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TN-92-00065

02/19/92

Physics Motivation for an Improved Tracker for GEM

Thomas, Jennifer

In order to take advantage of the "no lose" scenario [1], it is essential that GEM be able to measure the charge of electrons to better than 1 in 10(5) at 250 GeV momentum. The "no lose" scenario points out that if no Higgs is found in the SSC energy range, then the longitudinal W scattering should become strongly interacting and the cross section will be enhanced to a measurable value if unitarity is conserved. An improvement to the present GEM tracker design is suggested which enables the best possible momentum resolution to be achieved under the existing boundary conditions of volume and magnetic field.

TN-92-00066

02/01/92

Previous Analysis of Tracks Data in Solenoid

Yatsunenکو, Yu. A.

Without tracking; determination and separation of primary vertices; preparation of arrays for reconstruction of single track; division of the tracks data onto kinematical subregions; determination of jets.

The day in the date field is not the correct date. Only February 92 was indicated on the cover.

TN-92-00067

02/20/92

Jet-Energy Measurements with a Noncompensating Calorimeter System

Paar, H. P.

We study how to obtain a measurement of a jet's energy with a calorimeter that consists of a noncompensating electromagnetic and a compensating or noncompensating hadronic section. We present results obtained with a simple algorithm that gets a best estimate of the true jet energy from the measured signals in each of the two calorimeter sections. The algorithm takes account of the event-to-event fluctuations in the energy deposits in the two calorimeter sections. If the hadronic calorimeter is compensating, all input data required for the method can be measured in beamtests of prototype calorimeter modules, using single electron and pion beams, and multiparticle beams (obtained from a target in a single pion beam). If the hadron calorimeter is noncompensating, additional knowledge is required regarding the jet fragmentation function and the electromagnetic energy fraction in hadronic shower development at SSC/LHC energies. The method works best for high jet energies (e.g. beyond 100 GeV) and its applicability can be extended to lower energies if the electromagnetic calorimeter is made thinner (in terms of nuclear interaction lengths). However, the noncompensating nature of the calorimeter system as a whole introduces nonlinearities in the signals, which cause a systematic uncertainty in the jet energy at the

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TN-92-00068

03/10/92

How Thick Should the GEM Barrel Calorimeter Be?

McNeil, R.

A simulated study of particles exiting the calorimeter from ordinary two jet events for the GEM detector at the SSC is reported. The overall rate of particles exiting the hadron filter as well as the source of these particles are determined for a constant thickness calorimeter following the GEM baseline tracking volume. Criteria are defined by which the thickness of the calorimeter can be gauged and the minimum thickness determined. From these criteria it is determined that for the rapidity range $0.0 < |\eta| < 1.3$ that 121 of calorimeter are needed.

TN-92-00069

03/10/92

Muon Energy Loss in GEM BaF2/Scintillating Fiber Calorimeter

McNeil, R.

A GEANT simulation study of energy losses for energetic muons passing through the GEM BaF2 EM calorimeter + scintillating fiber hadron calorimeter is reported. Two choices for the absorber, lead and copper, are considered for the hadron section of the calorimeter. The energy loss distribution is parameterized and a subroutine described for fast simulation of muon energy loss in GEM.

TN-92-00070

03/16/92

Effects of Limited Calorimeter Coverage on ET

Paige, Frank E.

Due to a limited calorimeter acceptance QCD jets produced at large η will miss the calorimeter, contributing to the measured ET cross-section. A simple calorimeter model is used to estimate this effect.

TN-92-00071

03/19/92

Comparison of Three- and Four-point Momentum Measurement in a Uniform Magnetic Field

McFarlane, Ken

Document has not been received from the author.

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TN-92-00072

03/01/92

Drift Gas Studies for GEM Muon System

Ahlen, S.

Using a specially designed test drift chamber, we present preliminary studies using several gas mixtures which are candidates for the GEM PDT muon system. Drift velocities and Lorentz angles were measured at various magnetic and electric fields intensities.

TN-92-00073

03/01/92

Basic Information Relating to Use of PDT's: Specification for Wire/Wall a-Concentricity

Ahlen, S.

The use of cylindrical drift tubes without support bridges for the wire is discussed. Basic formulae for calculating the electric field and the induced tracking errors for this configuration are presented.

TN-92-00074

03/01/92

Wire Positioning Accuracy Based on Knowledge of Wire Tension

Ahlen, S.

The wire tension test setup is presented. The sagita-tension relation is presented both calculated and measured, with and without the presence of the electric field.

TN-92-00075

03/01/92

Measurements of HRS Wire Tensions 12 Years After Construction

Ahlen, S.

The technique used to build PDTs for the HRS experiment is described. Wire tensions were measured after 12 years indicating good stability over long periods of time.

TN-92-00076 DRAFT

04/07/92

GEM Baseline 1 Specification

Barish, Barry

This document details the current GEM detector baseline design. This design will be used for an in-depth analysis of cost, schedule and physics performance. The next revision to this document will be on or about June 5, 1992

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TN-92-00077

Radiation Damage in Large Barium Fluoride Crystals

Li, P. J.

The radiation damage of barium fluoride (BaF₂) crystals was investigated through the changes in their optical transmission before and after γ -ray irradiation. The correlation of radiation damage with crystal growth conditions revealed that the radiation damage is impurity and defect related. As impurity is concerned, when the contents of cationic impurities decrease to a certain tolerated level, oxygen and hydroxyl become most harmful. High density of defect such as scattering centers in crystal also resulted in radiation damage. Thanks to recent progress in BaF₂ crystal growth, an encouraging result of radiation test on large crystals has been achieved. On the mechanism of radiation damage, it is likely that the oxygen ion came from dissolved oxygen during irradiation is the cause of 190-250 nm absorption band and the formation of F color center is the origin of 500-600 nm absorption band. Another hypothesis by L.Y. Chen *et al.* suggests that the formation of U center after irradiation is responsible for the VUV absorption at 204 nm and IR absorption at 793.75 cm⁻¹ respectively.

TN-92-00078

Radiation Damage of Rare Earth Ions Doped Barium Fluoride Crystals

Chen, G.

The radiation resistance of rare earth doped barium fluoride (BaF₂) crystals was investigated. Stable trivalence elements, such as Y, La and Lu, have no effect on radiation resistance. While the elements which changes its valence from +3 to +4 under irradiation, such as Ce and Pr, are harmful to the radiation resistance of BaF₂, the elements which changes its valence from +3 to +2 under irradiation, such as Sm, Eu, Dy, and Yb, are useful in eliminating color centers in visible range, but may introduce some additional color center in UV range.

TN-92-00079

12/05/91

Intermediate Mass Higgs \rightarrow WW Decay

Yamamoto, Hiroaki

The Higgs decay mode, $H \rightarrow W+W-$, is very important in the Higgs mass range above the $W+W-$ threshold and below the Z^0Z^0 threshold. In this note, the leptonic decays of this process $H \rightarrow W+W- \rightarrow e+ m-$, has been studied for various top mass, and it is shown that the background against this signal can be reduced to the same size as the signal and that we can expect to have statistically significant signal.

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TN-92-00080

03/08/92

GEM Muon Group Meeting - Tucson

Agenda, attenders, and transparencies of the GEM Muon group meeting held at Tucson on March 8, 1992. Agenda: (1) Review of the new baseline; (2) Status of the trigger; (3) Status of engineering design; (4) R&D short term goals and schedule; (5) cost review preparation; and (6) Long range plans - EDR and beyond.

TN-92-00081

03/31/92

Jazelle Data Manager for GEM, The

Johnson, Tony

This document has not been recieved from Author.

TN-92-00082

04/01/92

GEM Magnet Subsystem Industrial Subcontract Information Meeting

Agenda and transparencies of the GEM Magnet Subsystem Industrial Subcontract Information Meeting held at the SSC Laboratory on April 1, 1992.

TN-92-00083

03/08/1992

GEM Trigger/DAQ Group Meeting

Attendes and transparencies of the GEM Trigger/DAQ Group Meeting held at the Collaboration Meetings in Tuscon on March 8 and 10, 1992.

TN-92-00084

03/08/92

GEM Calorimeter Group Meeting - Tucson

Agenda and transparencies of the GEM Calorimeter Meeting held at the GEM Collaboration meeting in Tucson on March 8, 1992.

TN-92-00085

03/08/92

GEM Collaboration Meeting - Tucson

Agenda, attenders and transparencies of the GEM Collaboration Meeting held in Tucson on March 8-11, 1992.

TN-92-00086

Unassigned

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TN-92-00087

04/02/92

Central Tracker Meeting

Transparencies of the presentations at the April 2, 1992 meeting at the SSCL. Included are capacitance calculations and measurements for the IPC pads, status reports for Silicon Tracker, IPC electronics, simulations, and integration. A short discussion of test beam possibilities at SLAC is also included.

TN-92-00088

04/17/92

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04/14/92

GEM Detector For the SSC: U.S. - Republic of Korea Working Group Meeting

Gary Sanders

Transparencies of the presentations at the April 14, 1992 Republic of Korea Working Group Meeting.

TN-92-00090

04/22/92

Liquid Argon Calorimeter Cost Review Meeting - SSCL

Transparencies of the presentations at the April 22, 1992 Liquid Argon Calorimeter Cost Review Meeting. Agenda items were: Resolution vs. Angle, Thickness; Status of Engineering; Cost Estimate; R&D Issues; Foreign Contribution Models; Preradiator; and Separate EM, EM+Forward.

This Document Number was changed to GEM IN-92-00003

TN-92-00091

4/4/92

Progress Report: Neutron Flux in the GEM Detector

Lee, David M.

The status of neutron fluence calculations throughout the GEM detector using the LAHET/MCNP code is described. Included are studies of fluence through the silicon vertex detector, and suppression obtainable with borated polyethylene. Also addressed are fluences within the endcap and forward calorimeters, as well as along the first muon chamber after the endcap. This report will be updated as new results are obtained, and old calculations are redone to reflect changes in detector geometry and materials.

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TN-92-00092

4/27/92

Simulations of Accordion EM Calorimeters

Ma, Hong

This is a summary of the GEANT simulation of the non-projective accordion EM calorimeters. Most of the simulations are related to the prototype stacks that are being built at BNL. EM shower resolution, position resolution, g α po separation, chevron electrodes, resolution at large incident angle and effect of the cryostat walls are discussed.

TN-92-00093

9/25/92

Muon Drift Chamber Physics and Engineering R&D Activities for the L* and GEM Detectors in FY 1991

Ables, E.

This paper will describe the work carried out at LLNL on muon chamber R&D for the L* detector in FY 1991. Because of the L* proposal rejection in May, 1991, and the subsequent restructuring to form the GEM detector collaboration in July, 1991, the work described in this paper will also be seen to be applicable to the envisioned muon chamber subsystem for GEM.

TN-92-00094

05/01/92

Calorimeter Meeting SSCL

Agenda, presentation, and attenders of the GEM Calorimeter Meeting held at the SSC Laboratory on May 1, 1992. Agenda items were: Baseline Status; Forward Activities; Discussion on April 21/22 Cost Review and International Contributions; BaF2 Activities; SSCintCal Activities; LAr Activities; Quartz Fiber Calorimeter; SSCL Test Beam Facilities; and Simulations and Test Beam Data.

TN-92-00095

04/30/92

Collaboration Council Meeting SSCL

Agenda and presentation of the GEM Collaboration Council Meeting held at the SSC Laboratory on April 30, 1992. Agenda items were: Status and News; GEM Facilities; Baseline 1 Overview; Subsystem Reports: Central Tracker; Calorimeters, Muons, Triggering/Electronics, Computing, Magnet, and Physics; Test Beam Report; R&D/Engineering; Cost Review; and Report/Discussion GEM Organization Committee.

TN-92-00096

3/1/92

Considerations Regarding Tube Wall Material

Ahlen, Steven

We discuss several options for the PDT tube wall materials in our proposed pressure and temperature conditions. Physical properties of those options are presented, which, together with costs considerations, lead us to the conclusion that Aluminum PDTs should be the best choice.

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TN-92-00097

04/09/92

Considerations on the Addition of Detector Planes Outside the GEM Magnet and on the Implementation of a Vertex Constraint

Rosenson, Larry

An investigation has been made of the possible performance improvements of the muon system with the addition of a fourth superlayer and also with the inclusion of a vertex constraint. It is recommended that space be reserved for the addition of a detector layer outside the cryostat in the barrel region for a potential improvement in the resolution and increase in robustness/redundancy. The endcap resolution is found not to be subject to improvement with the addition of an extra layer. The vertex constraint is likely to yield significant improvement over the whole angular range and provision should be made to measure and maintain the required global alignment of the vertex detector to permit its useful inclusion in the muon detector track reconstruction.

TN-92-00098

05/12/92

Shielding in 300 - 1000 G Background Field

Martovetsky, N. N.

Efficiency of shielding is very dependent on the volume to be shielded and on the shape of the iron shield. This is preliminary data for shielding in uniform field of 300 - 1000 G which covers the values of field flux density in the experimental hall in the median plane of the magnet outside the vacuum vessel. The objective of the study is to figure out the thickness of the shield to bring the field down to less than 50 G level.

TN-92-00099

5/18/92

Monte Carlo Studies of the Texas Test Rig Performance

Vanyashin, A.

To test the performance of different muon chamber technologies proposed for the GEM experiment at the SSC, the Texas Test Rig (TTR) will be established at the SSC Laboratory. The results of Monte Carlo studies of TTR are presented. An optimized off-line selection algorithm is found.

TN-92-00100

5/1/92

Momentum Resolution Criteria for the Central Tracker

Zhou, B.

We present our calculation of the GEM central tracker resolution necessary for muon identification. The production of top quark pair and its background is analyzed.

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TN-92-00101

05/01/92

Study of Hadron Punchthrough and Muon Rates at the SSC Yuan-Hann Chang

Chang, Yuan-Hann

Hadron punchthrough probabilities functions of hadron energy and absorber length at the SSC are studied in detail. Energy spectra, charged multiplicity and the angular spread distributions of the punchthrough are presented. Total muon rates are calculated for the GEM detector baseline design.

TN-92-00102

4/29/92

Muon Group Meeting - SSCL

Agenda, attenders, and transparencies of the GEM Muon Group Meeting held at the SSCL on April 29, 1992. The meeting was to focus on preparations for the TTR tests this summer. Agenda items: General Issues; Review of Baseline; Definition of Goals for TTR Test; Status Reports of R&D Efforts; Discussion of TTR Test; Update on Simulations; Preparations for May 5 Cost Review; Assignment for TDR Preparation; and Discussion/Review.

TN-92-00103

05/01/92

$H_0 \rightarrow ZZ^* \rightarrow \lambda+\lambda^- \quad \lambda+\lambda^-$: Search for $140 < M_{H_0} < 180$ GeV

Zhou, B.

We present our calculation for the Higgs production in the case of four leptons in final state. The background for these events is analyzed. The triggers performance and requirement are presented.

TN-92-00104

5/28/92

IEEE Standard 754 and You: What the GEM Computer User Needs to Know About IEEE Floating-Point Arithmetic

Roberts, Lee A.

GEM computer users, for better or for worse, will interact with the IEEE Standard for Binary Floating-Point Arithmetic (IEEE 754). All of today's popular RISC/UNIX architectures support the IEEE 754 standard both in data format and exception handling. However, details of the IEEE 754 exception handling vary among the RISC/UNIX architectures. GEM code development efforts on these popular RISC/UNIX systems can be greatly enhanced with proper understanding of IEEE 754 exception handling. Suggestions for successful use of the IEEE 754 standard are presented for each of today's popular RISC/UNIX architectures.

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TN-92-00105

05/28/92

The Mylar Straw Tubes: Test Results and Applications to Muon Tracking

Chirikov-Zorin, I.

We report the test results of a 1 m long block of mylar straw tubes consisting of 64 channels. The spatial resolution and charge distribution have been obtained. The application to muon tracking of GEM are discussed.

TN-92-00106

05/20/92

Muon Engineering Status Meeting - M.I.T.

Agenda, attenders, and transparencies of the GEM Muon Engineering Status Meeting held at M.I.T. on May 20, 1992. Agenda items: Comments; Draper Management Information; Muon System Design: Structures, Chambers, and PDT Chamber Design; Alignment; Cost Book; and Action Items.