

SUMMARY OF OPERATIONS - MAY 1980

Program Planning Office

The high-energy physics program continued 350-GeV operation during the month of May. The Main Ring accelerated a nominal 1.7×10^{13} protons/pulse spilling them out of the proton synchrotron during a one and one-half second flat-top. After two relatively smooth startups following the first two weekly maintenance periods, over 34 hours of down time were recorded during the startup after the third week's maintenance period. The chief problem was a twice-undetected closed valve in the Main-Ring cooling system at E2, which ultimately resulted in the flooding of the E2 service building. By comparison, the fourth week's startup was perfect.

Two major changes occurred in the experimental areas during May. Dimuon #326 finished their run for this operating period and relinquished the Proton-West beam line to Dimuon #537. After an initial phase of experimental apparatus check out, Experiment #537 began doing \bar{p} flux measurements. In the M6 beam line, Elastic Scattering #577 replaced Particle Search #580 and, after a brief setup period, began taking data. In addition, two other experiments, Particle Search #610 (N1) and Kaon Charge Exchange #585 (M4), began taking data. This makes a grand total of seven experiments taking data.

Three experiments are in test mode in anticipation of future running. Beam Dump #613 finished their radiation measurements and began investigating muon contamination in their detector. Charged Hyperon #497 has been learning to tune the Proton-Center beam line and measuring hyperon rates. Neutrino #594 has been plagued by problems with its flash chamber pulse-forming networks, but, by the end of the month, were able to write neutrino events on tape.

FERMI NATIONAL ACCELERATOR LABORATORY
MONTHLY OPERATIONS HISTORY
MAY 1980

Date	Accelerator	Internal Target Area	Proton Area	Neutrino Area	Meson Area
Thu. 5/1	Accelerator Maintenance & Startup (Align ES38)				
Fri. 5/2	1.5x10 ¹³ ppp @350 GeV	591	326 (PW) 516 (PE)	595 (N5) 610 (N1)	580 (M6) 515 (M1)
Sat. 5/3	1.5 sec flattop		497 Tests (PC)		585 (M4)
Sun. 5/4					M2 Tests OFF (M3)
Mon. 5/5	MR Computer-M.E.				
Tue. 5/6	MR Quad-Insulator				
Wed. 5/7	Accelerator M & D				
Thu. 5/8					
Fri. 5/9	>1.5x10 ¹³ ppp @350 GeV	591	516 (PE) 537 (PW)	595 (N5) 610 (N1)	515 (M1) 585 (M4)
Sat. 5/10	MR Mag. Repl. 1.5 sec flattop		497 Tests (PC)		577 (M6)
Sun. 5/11	MR Mag. Repl.				M2 Tests (M2) OFF (M3)
Mon. 5/12	Necessary Repairs				
Tue. 5/13	1.5x10 ¹³ ppp @350 GeV				
Wed. 5/14	1.5 sec flattop				
Thu. 5/15	Accelerator M & D				
Fri. 5/16	2.0x10 ¹³ ppp @350 GeV	591	516 (PE) 537 (PW)	595 (N5) 610 (N1)	515 (M1) 577 (M6)
Sat. 5/17	1.5 sec flattop		497 Tests (PC)	594 Tests (N0)	585 (M4)
Sun. 5/18					M2 Tests (M2) OFF (M3)
Mon. 5/19	MR Water Leak				
Tue. 5/20	2.0x10 ¹³ ppp @350 GeV				
Wed. 5/21	1.5 sec flattop				
Thu. 5/22	Accelerator M & D				
Fri. 5/23	Water Leaks & "Obstacle"		Start-up For HEP		
Sat. 5/24	Booster Quad P.S.	591	516 (PE)	595 (N5)	515 (M1)
Sun. 5/25	2.0x10 ¹³ ppp @350 GeV		537 (PW) 497 Tests (PC)	610 (N1) 594 Tests (N0)	577 (M6) 585 (M4)
Mon. (H) 5/26	1.5 sec flattop				613 Tests (M2) OFF (M3)
Tue. 5/27					
Wed. 5/28	Accelerator M & D				
Thu. 5/29					
Fri. 5/30	2.0x10 ¹³ ppp MR Mag. Repl.	591	516 (PE) 537 (PW)	595 (N5) 610 (N1)	515 (M1) 577 (M6)
Sat. 5/31	@350 GeV 1.5 sec flattop		497 Tests (PC)	594 Tests (N0)	585 (M4) 613 Tests (M2) OFF (M3)

BEAM UTILIZATION BY EXPERIMENTAL ACTIVITY - MAY 1980

	<u>Beam</u>	<u>Hours</u>	<u>Activities</u>
PROTON AREA			
Dimuon #326	PW	70	data; A-dependence and trigger rate studies
Charged Hyperon #497	PC	450	startup and test; hyperon flux measurements
Photoproduction #516	PE	330	tuneup and check-out; preliminary test data
Dimuon #537	PW	350	startup; equipment checkout and \bar{p} flux measurements
NEUTRINO AREA			
Neutrino #594	NO	140	startup and test; checkout of flash chambers and setup of test of PWC trigger
Particle Search #595	N5	340	data; switched from diffracted protons to π^- beam at -275 GeV/c
Particle Search #610	N1	430	tuneup and data; trigger studies and drift chamber characterization
MESON AREA			
Particle Search #515	M1	340	data; ~ 15 triggers/pulses with 4×10^{12} protons on target
Elastic Scattering #577	M6	290	data at -200 GeV/c
Particle Search #580	M6	80	data at -200 GeV/c
Kaon Charge Exchange #585	M4	420	tuneup and data; checkout of chambers and fix hydrogen target
Beam Dump #613	M2	40	test; radiation measurements and investigation of muon contamination
INTERNAL TARGET AREA			
Particle Search #591	ITA	350	data with various gas mixtures
TOTAL HOURS FOR HIGH ENERGY PHYSICS		3630	