

Interim Report on Protons Incident on Booster Dump in 1995

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AGS Complex Machine Studies (AGS Studies Report No. 337) Interim Report on Protons Incident on Booster Dump in 1995	
Study Period:	December 21, 1994 - May 17, 1995
Participants:	E. Bleser and P. Ingrassia
Reported by:	E. Bleser
Machine:	Booster
Beam:	Normal Protons
Tools:	Thermoluminescent detectors mounted in Booster tunnel
Aim:	AGS-OPM 2.5 (1/4/93) specifies that the total number of 1.5 GeV equivalent protons deposited on the Booster dump in a year shall not exceed 2.5×10^{19} . This note reports the interim results of the monitoring program for 1995.

PROCEDURES

The procedures are detailed in AGS Studies Report No. 301.

RESULTS

Table 1 summarizes the data used in this report. The units are nominally nanoCuries, but we can take them as arbitrary. The calibration run in 1993 put 1.88×10^{15} protons into the dump. Using this number we calculate in Table 2 that as of May 17, 1995 we had put 0.75×10^{19} protons into the dump, well below the allowed level of 2.5×10^{19} .

TABLE 1

BOOSTER DUMP MONITORING TLD RESULTS

"Net nC" for TLD-700 units

PARTIAL RESULTS FOR 1995

RUN NUMBER	1	2	3	4	CALIB
INSTALLATION DATE	12/21/94	2/1/95	2/28/95	4/12/95	7/22/93
REMOVAL DATE	2/1/95	2/28/95	4/12/95	5/17/95	7/22/93
DAYS of EXPOSURE	42	27	43	35	1
DATE of REPORT	FEB 8	MAR 28	MAY 18	MAY 22	JULY 30/93

DETECTOR

3a	88842	118708	263431	205946	160.39
3b	98597	115818	NA	151038	134.74
4a	34010	52627	120718	70865	79.26
4b	40525	49063	152322	47381	69.83
5a	16879	38307	75470	27515	43.7
5b	23721	27133	70923	37284	40.35

TABLE 2

SUMMARY of RESULTS

PARTIAL RESULTS FOR 1995

RUN NUMBER	AVERAGE of RATIOS to CALIBRATION RUN	STD	TOTAL PROTONS 10 ¹⁵	PROTONS per DAY 10 ¹⁵
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CALIBRAT	1		1.88	1.9
1	544.9	113.1	1024	24.4
2	752.6	85.4	1415	52.4
3	1766.3	222.9	3321	77.2
4	921.9	229.6	1733	49.5

TOTAL 1.5 GeV EQUIVALENT PROTONS on DUMP	7493
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OPM LIMIT for DUMP	25000
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