

P.S. UTILIZATION JANUARY - MAY, 1962

The attached list shows the number of shifts run by different experiments at the P.S. during the period January to May, 1962.

Significance of Numbers on List

6 hours operation with every machine pulse and 10^{11} protons on the target are counted as 1 shift. Experiments running with a fraction of the pulses or a fraction of 10^{11} protons are considered to have had a corresponding fraction of a shift.

The resulting numbers would only be measurable to better than $\pm 15\%$ with a very complicated legalistic definition of "good" machine time. In general time 'run' does not include time made available when the machine ran and the experiment was in such bad shape that it could not try to collect data.

It should also be noted that one experiment may use only 1 magnet and be fitted in after all other experiments are arranged, another may take the full use of the machine by making any parallel operation impossible by requiring variable machine energy, and block 2 beams for periods before and after its run. Therefore only the gross features of the attached list should be taken as meaningful.

Parallel Running

On average, over the period January - May, 1.7 experiments shared each pulse. The average number of experiments working simultaneously (calling the use of alternate pulses "simultaneous"), in April - May was 2.8.

B.D. Hyams

Distribution:-

Nuclear Physics Research Committee
Experimental Teams concerned.

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Track Chamber	Shifts Assigned	Shifts Run	Status of Experiment		
			Finished	Unfinished	Comments
R7 (CERN Propane Chamber Test)	10	3	✓		
W Wilson Chamber	?	0.28		✓	
P13 3 Gev \bar{p} in H_2	30	~60	✓		
P14 3 Gev \bar{p} in D_2	30	0		✓	Chamber did not work on D_2 .
T4T9P8 $\pi^{+,-}$ in H_2	30	33	✓		
P16 1.5 Gev K^- H_2	15	16	✓		
T7 K^+ H_2	?	6	✓		
P15 K^- He	15	15	$\frac{1}{2}$		Chamber did not work properly.
T8 K^- Freon	30	31	✓✓		
Totals	150	164			
	===	===			
<u>Counters</u>					
C3 p-p	24	28	✓		
D6 π^0 lifetime	0	9		✓	more time requested.
S5 π form factor	10	19		✓	
S6 $\Sigma \Lambda$ - Parity	0	57		✓	
Neutrino	15	2		✓✓	
L2 Hyperon Resonances	13	13		✓	
S7 $\Sigma \Lambda$ - Parity	~25	27		✓	
Totals	87	155			
	===	===			
<u>Emulsions</u>					
E7 Mag. Monopoles	2	2	✓		
E11 $g(\Lambda^0)$	5	1		✓	
E11a $g(\Sigma^+)$	0	6		✓(?)	
E31 K^-	15	22	✓		
Totals	22	31			
	===	===			

	Shifts		Status of Experiment		
	Assigned	Run	Finished	Unfinished	Comments.
<u>Survey Measurements</u>					
π^- fluxes angular and energy distribution	} 30	15	✓ ?		Taylor Group did N4 expt
K^+ /p ratio $45^\circ, 60^\circ$		9	✓		
K^\pm/π ratio 15°		3	✓		
Totals	30 ===	27 ===			
<u>Nuclear Chemistry</u>					
K5 $\pi \rightarrow 2\pi$	3	3.5		✓	
Weekly Exposures	2	2	✓		
	5 ===	5.5 =====			

Total Shifts Run	<u>382</u>
Machine Operated for counters	85
bubble chambers	110
others	35
<u>Total</u>	<u>230</u> =====