

## BEAM INTENSITY IN THE AGS

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**U.S. Department of Energy**

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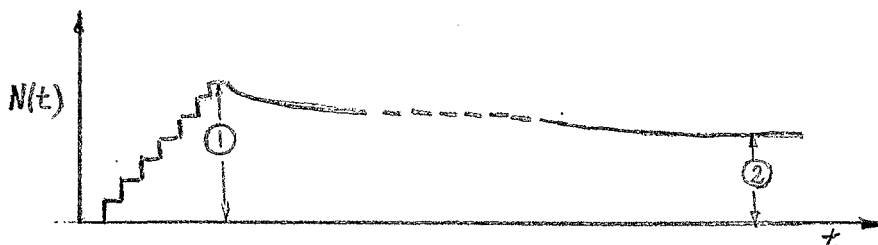
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Protons from Linac =  $N$ .

Protons at (1) =  $\eta_1 N = N_{(1)}$ ;  $\eta_1$  = efficiency to end of multiturn.

Protons at (2) =  $\eta_1 \eta_2 N = N_{(2)}$ ;  $\eta_2$  = efficiency from (1) to (2).

	50 MeV Injection	200 MeV 1/18/72	With Some Improve- ment 200 MeV
$\eta_1$	50%	60%	70%
$\eta_2$	30%	36%	50%
$\eta_1 \eta_2$	15%	21.6%	35%
I	40 ma	40 ma	100 ma
Turns	$10_T$	$10_T$	$10_T$
Protons/ma turn	$5 \times 10^{10}$	$3 \times 10^{10}$	$3 \times 10^{10}$
$N$	$2 \times 10^{13}$	$1.2 \times 10^{13}$	$3 \times 10^{13}$
$N_{(1)} = \eta_1 N$	$1 \times 10^{13}$	$7.2 \times 10^{12}$	$2.1 \times 10^{13}$
$N_{(2)} = \eta_1 \eta_2 N$	$3 \times 10^{12}$	$2.6 \times 10^{12}$	$1.0 \times 10^{13}$