

AGS Parameters:

Synchrotron with 12 Supper\_Periods.

Number of magnets per Supper\_Period = 20 Combined Function magnets

Total Number of main Magnets = 240 Combined Function Magnets.

A combined Function magnet provides bendind (zeroth order) and focusing (first order).

There are 144 “90 inches Long main\_magnets” and 96 “75 inches Short magnets”

The gap (aperture) of each of the main\_magnets at the location of the circulating beam ( $r_0=0$  mm) is ~8.9 cm.

Each AGS\_main\_magnet is separated from the next by straight sections which vary in length. 28”, 64” and 124”.

Most of the straight sections are occupied by magnets like Quadrupoles and Sextupoles.

Radius of Circulating Beam (at  $r_0=0$  mm) = 128.4526 m

	B_field_main_mag. [T]	Beam_Rigidity [T.m]
Minimum at Injection	0.025	2.15
Maximum at Extraction	1.267	107.0

	Tunes	beta[m]	$\eta$ [m] (dispersion)
Horizontal	~8.7	10 to 22	1.5 to 2.1
Vertical	~8.8	10 to 22	

I provide the web\_location of three Technical notes with information about the AGS. However instead of going through the notes. I suggest that you may ask me specific questions and most likely I will provide the answers.

[http://www.cadops.bnl.gov/AP/ap\\_notes/cad\\_ap\\_index.html](http://www.cadops.bnl.gov/AP/ap_notes/cad_ap_index.html) C-A/AP/54

<http://epaper.kek.jp/p01/PAPERS/TPPH010.PDF>

[http://www.agrhichome.bnl.gov/RHIC/RAP/rhic\\_notes/AD-RHIC-RD-1-128/AD-RHIC-RD-75.pdf](http://www.agrhichome.bnl.gov/RHIC/RAP/rhic_notes/AD-RHIC-RD-1-128/AD-RHIC-RD-75.pdf)