AGS Complex Machine Studies (AGS Studies Report No. 330) AGS STOPBANDS III
Study Period: May 2 and May 25, 1995
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Machine: AGS
Beam: Coasting Low Intensity
Tools: AGAST - LeCroy
Aim: To document effect of sextupoles on stopbands.

Summary

The effect of the change in the horizontal sextupoles on stopband corrections is documented. It is found that the removal of the horizontal sextupoles in the B, D, F, H, J, and L superperiods reduced but did not remove the variation in the sn26 corrections with horizontal sextupole current.

Results

The data are summarized in Figure 1 where the values of the sextupole currents in counts (milliamps) are shown as a function of current in the horizontal sextupoles. The settings correct both the $3Q_H = 26$ and $Q_H + 2Q_V = 26$ lines simultaneously. The data with $IHS \leq 15A$ are from May 2, 1995 while the data with $IHS \leq 30A$ were taken on May 25, after the six chromaticity sextupoles were removed. The settings of the drive low field sextupole correction were 700 and 800 on May 2 and May 25, respectively.

From Figure 1 it is clear that the variation in the SN26 correction with current in the horizontal sextupoles was reduced by removing the six sextupoles. On the other hand, the change in the SN26 correction with the change in chromaticity due to the sextupoles was less. For example, consider the horizontal sextupoles in superperiods B, E, H, and K denoted by triangles in Figure 1. The correction peaks out at 3000 counts for $IHS = 15A$ on May 5 and for $30A$ on May 25. Since only half as many magnets were used on May 25 the effective chromaticity change is very similar.

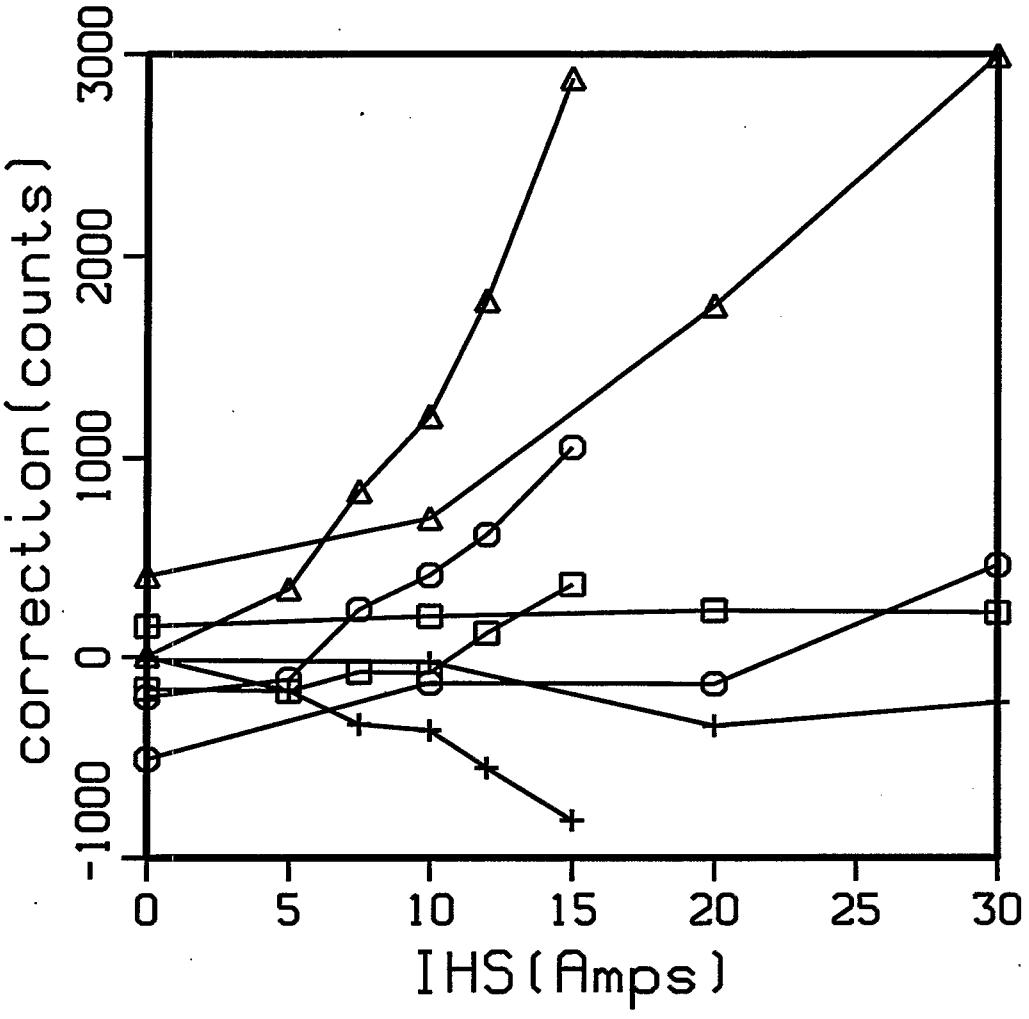

Figure 1: SN26 corrector settings .vs. current in the horizontal chromaticity sextupoles. square(VB,-VE,VH,-VK); circle(VC,-VF,VI,-VL); triangle(HB,-HE,HH,-HK); cross(HC,-HF,HI,-HL)