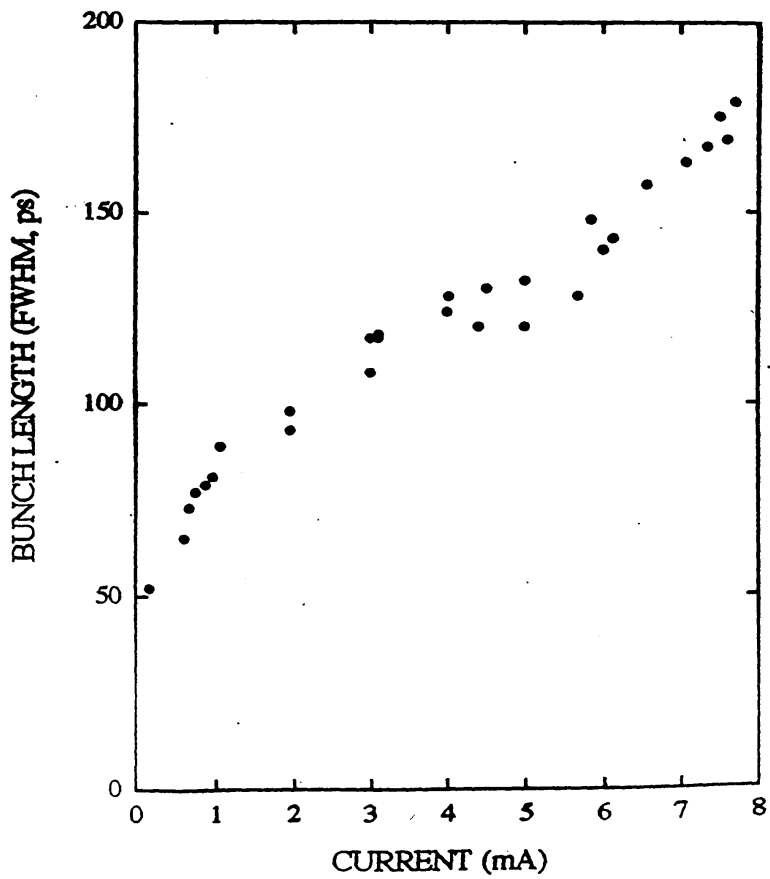


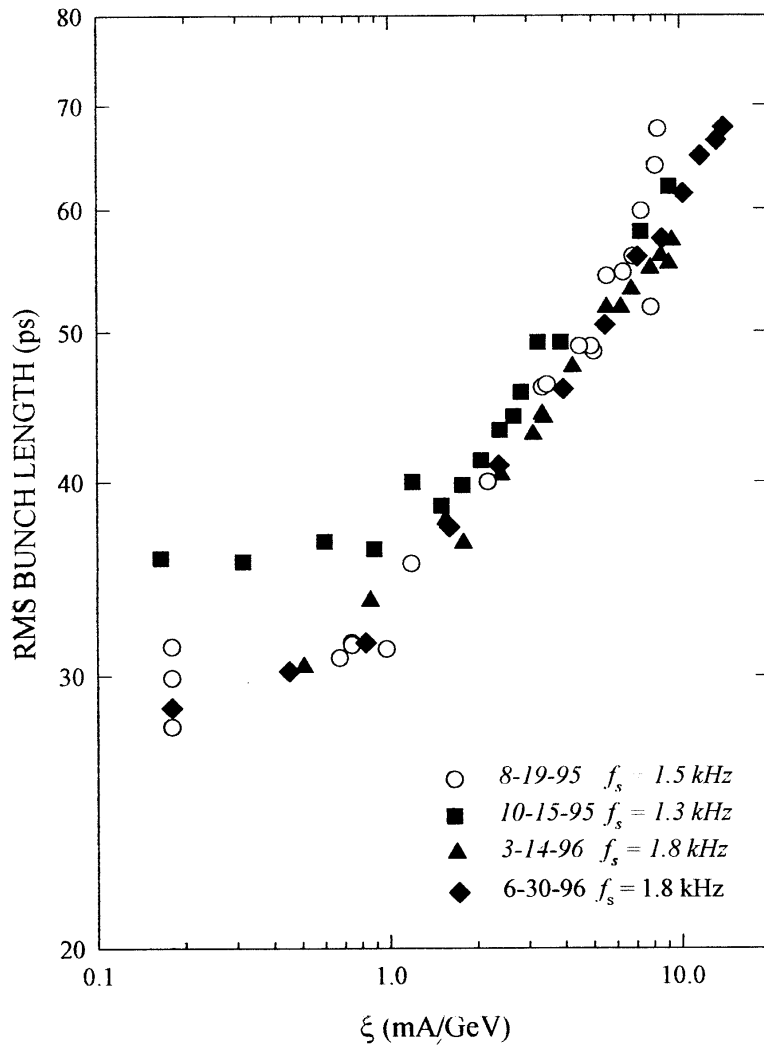
ADVANCED PHOTON SOURCE

Storage Ring bunch length measurement (8/19/95)



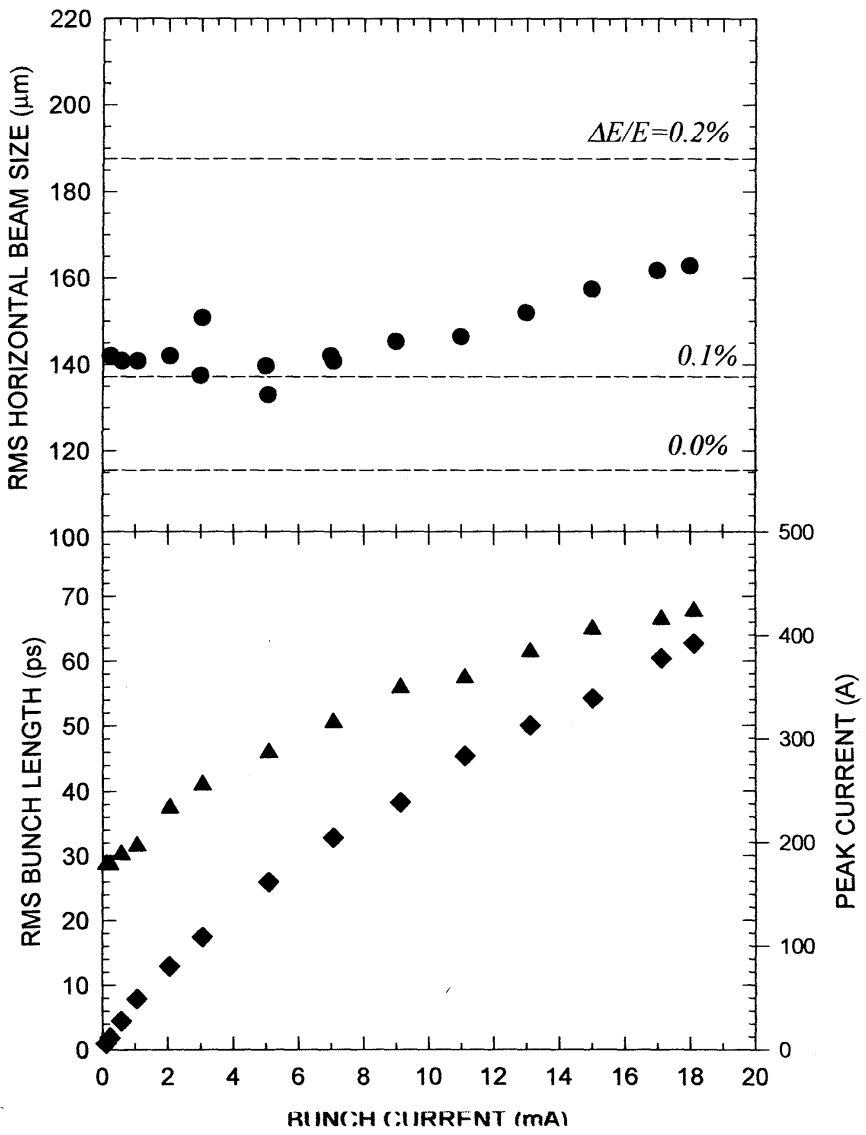
18

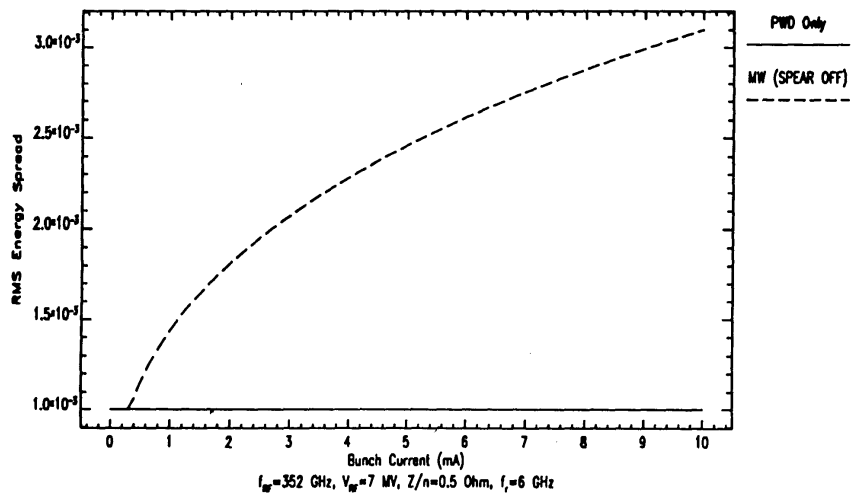
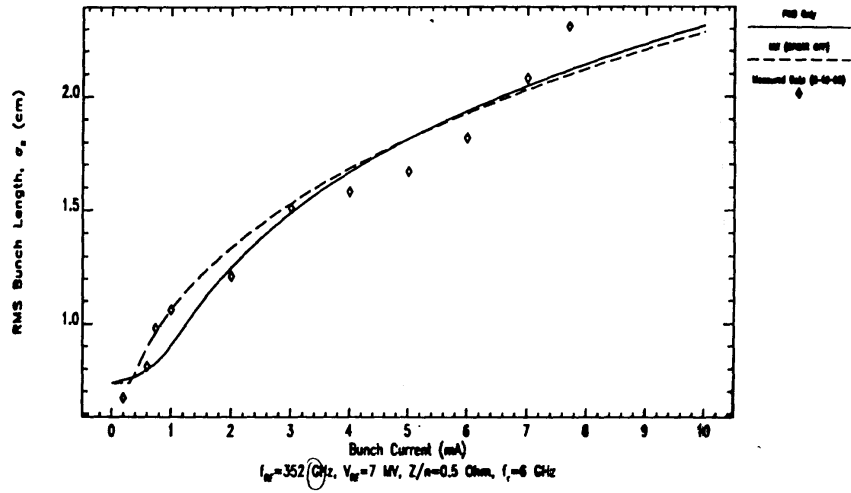
APS SINGLE BUNCH LENGTH VERSUS BUNCH CURRENT



-3% correction to beam size, 80 micron resolution contribution removed

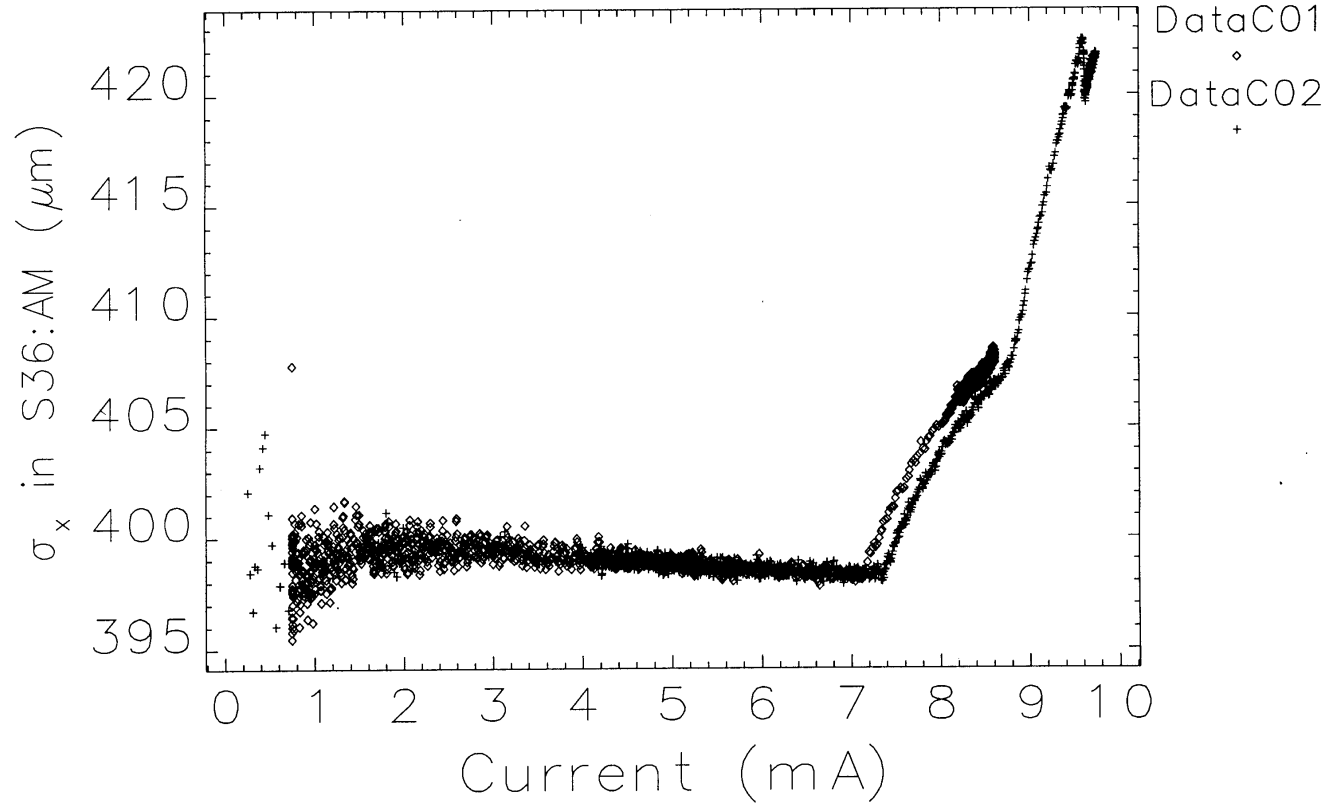
APS BEAM SIZE AND BUNCH LENGTH VERSUS BUNCH CURRENT (6/30/96) ($f_s = 1.8\text{kHz}$, $80\mu\text{m}$ resolution correction applied)





Horizontal Beam Size at S36:AM with High Dispersion

13:16
3 Mar 00



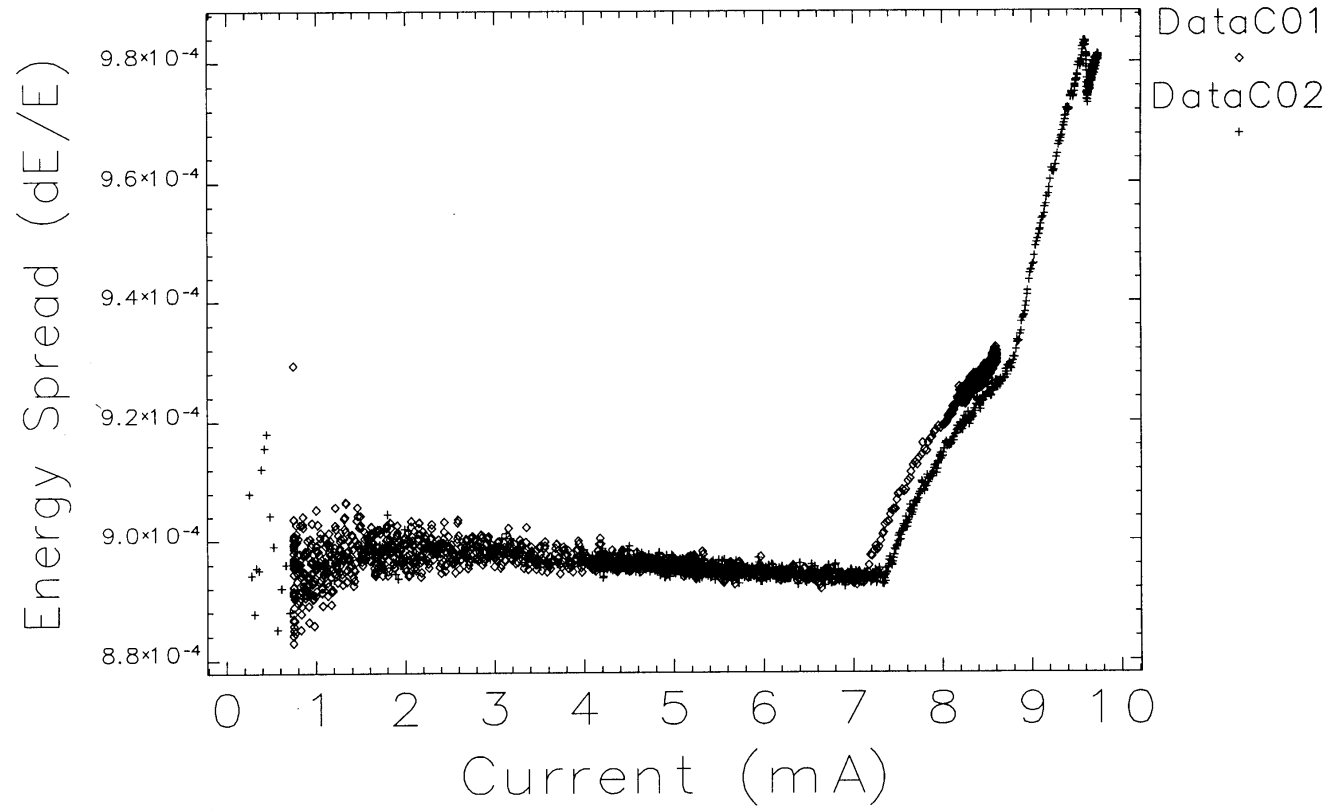
Lattice Parameter: $\eta_x=0.34$ m, $\beta_x=8.1$ m, $\epsilon_x=8$ nm

$D_{Sp} \sim 310 \mu\text{m}$
 $(\sigma_x) \sim 210 \mu\text{m}$

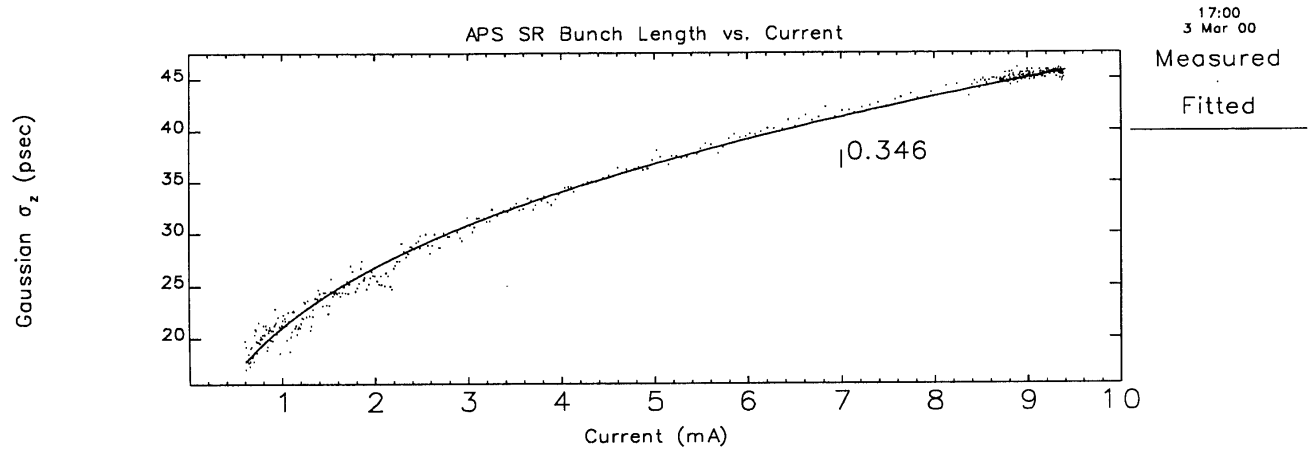
Courtesy of Y. Chae, APS

Energy Spread Based on S36:AM Beam Size Measurement

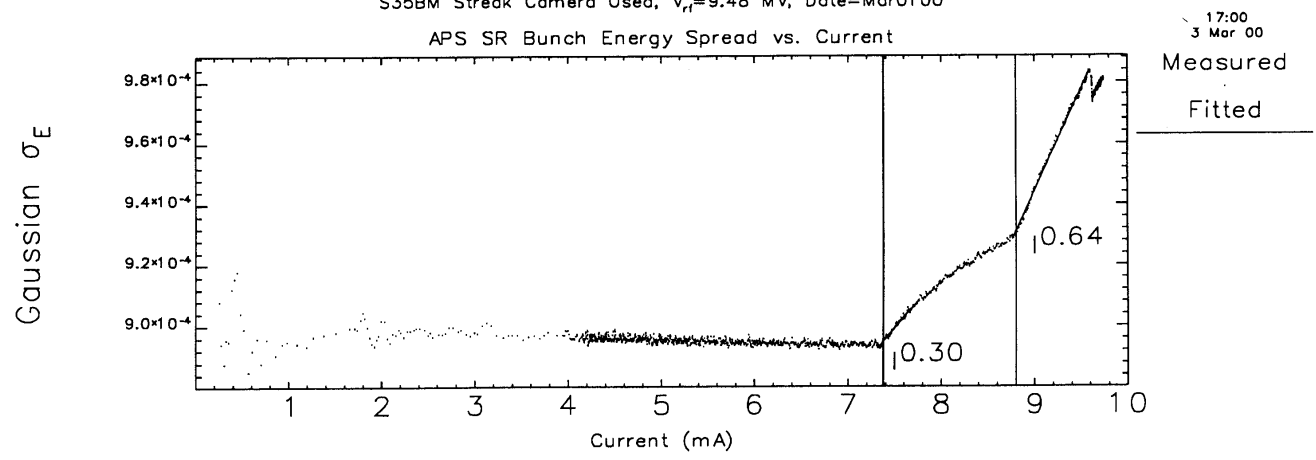
13:19
3 Mar 00



Lattice Parameter: $\eta_x=0.34$ m, $\beta_x=8.1$ m, $\epsilon_x=8$ nm

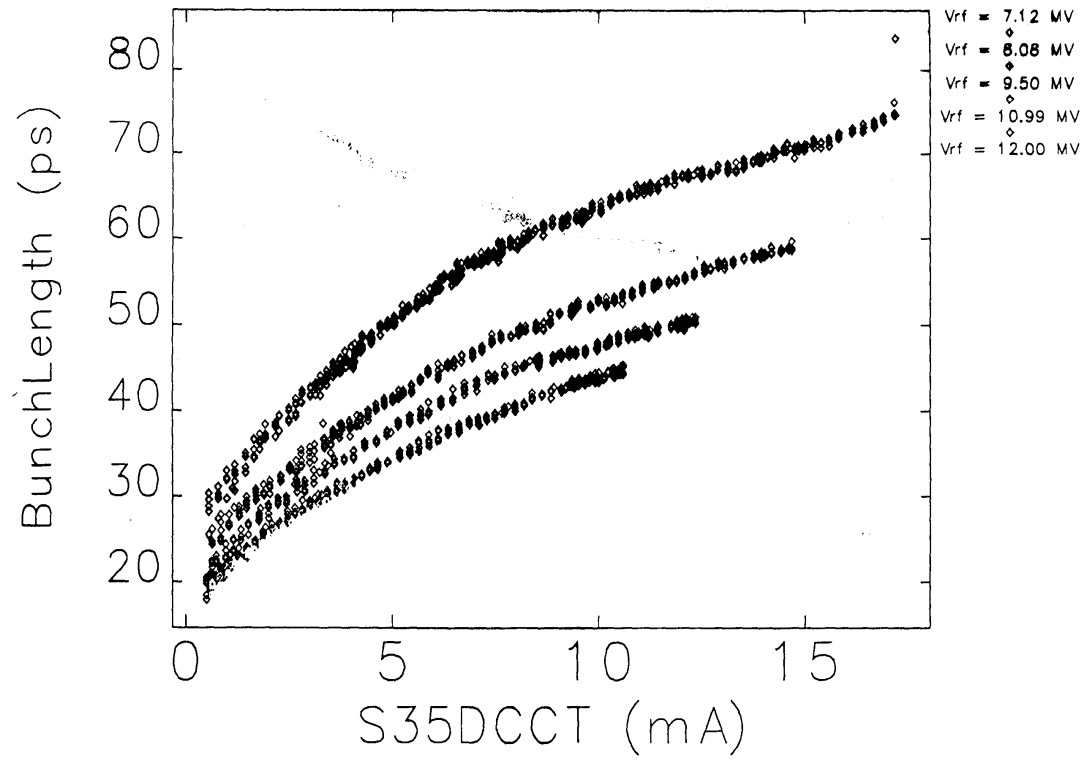


S35BM Streak Camera Used, $V_{rf}=9.48$ MV, Date=Mar0100

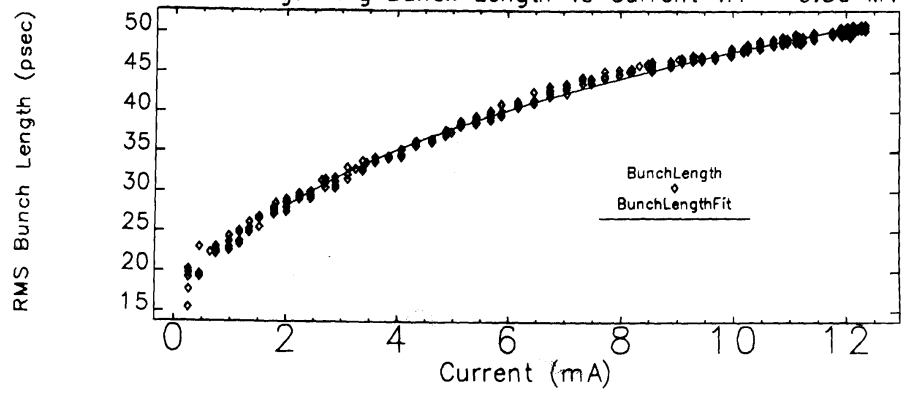


S36AM $\eta_x=0.34$ m, $\beta_x=8.1$ m, $\epsilon_x=8$ nm

Courtesy of Y. Chae, APS



APS Storage Ring Bunch Length vs Current Vrf = 9.50 MV



$$\ln \text{BunchLength} = 3.10874 + 0.327293 * \ln \text{Current}$$

