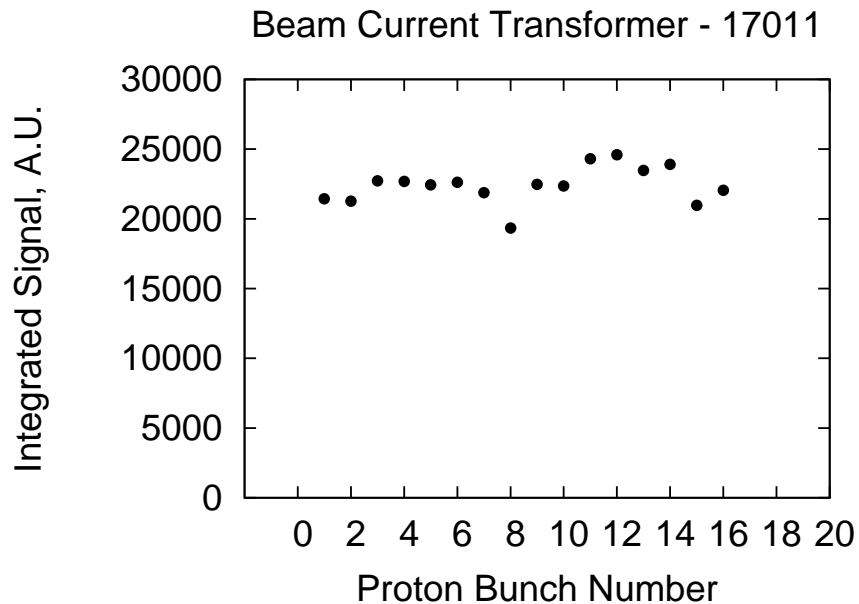


# Particle Detector / Beam Current Transformer Analysis

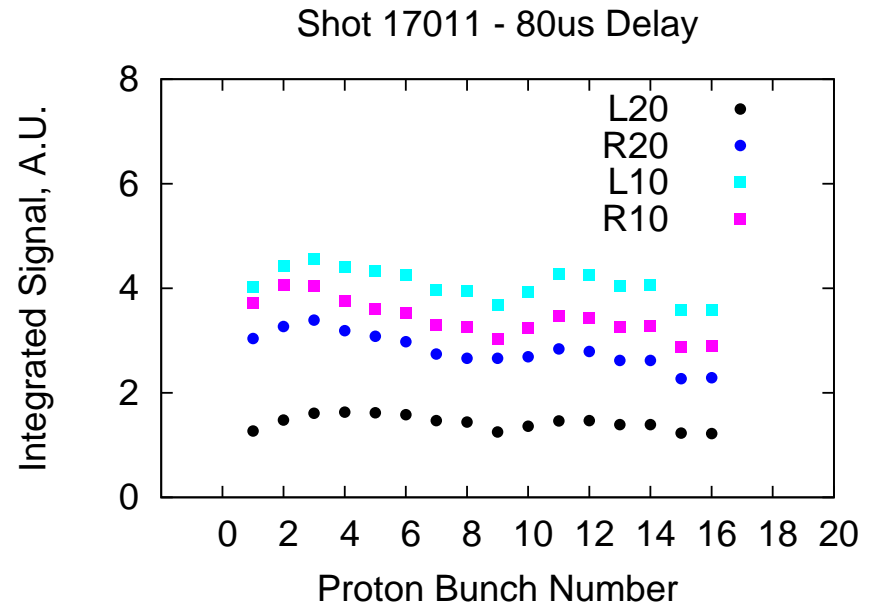
**December 8, 2009**

**Harold G. Kirk**

# Shot 17011 - 80 $\mu$ s Delay

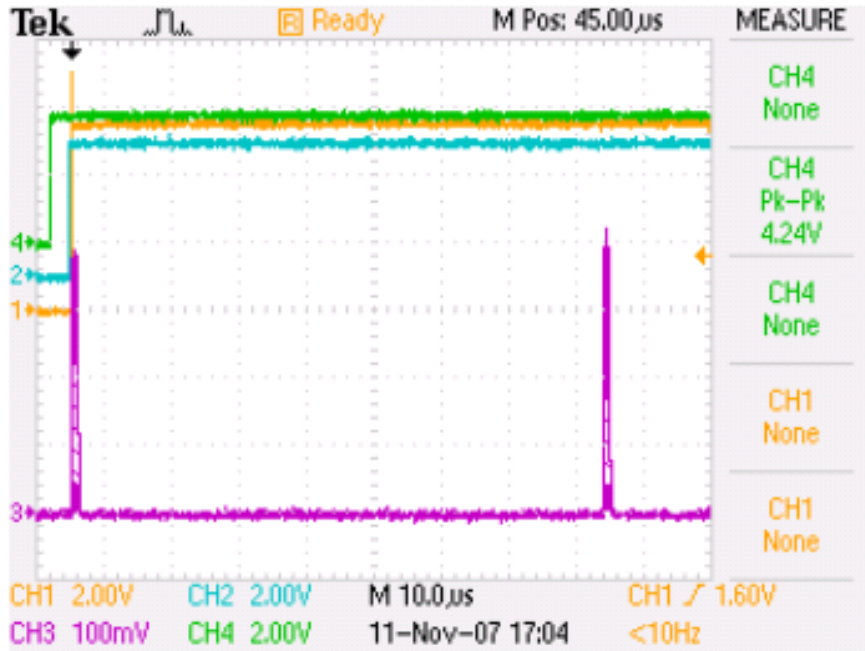


Probe/Pump  
BCT = 1.056



Probe/Pump  
L20 = 0.890  
R20 = 0.854  
L10 = 0.927  
R10 = 0.871

# Shot 17011



TDS 2024B - 3:02:43 PM 11/11/2007

14 GeV

$dt = 80\mu s$

$4T_p + 4T_p$

7T

Target In

# Analysis of 17011

Integrated SF pulse areas

Pump  $172.4 \times 10^{-9}$  V-s

Probe  $175.6 \times 10^{-9}$  V-s

Current Transformer

Pump 187829 (au)

Probe 196504 (au)

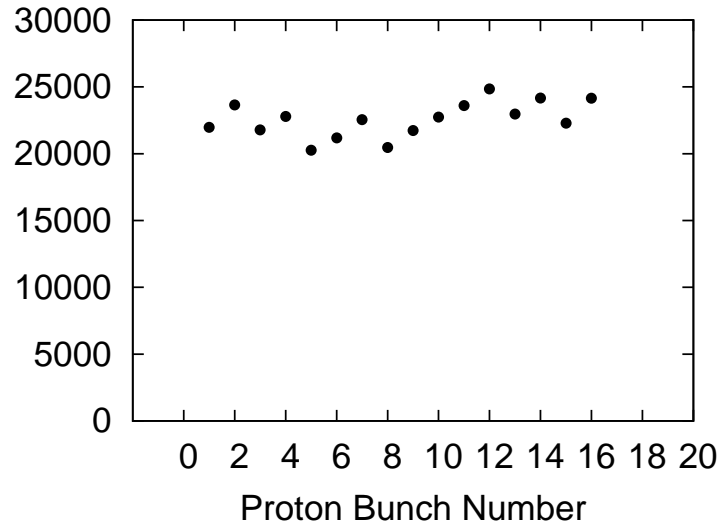
Ratios:

Beam Current 1.046

SF 1.019 → 2.9% difference

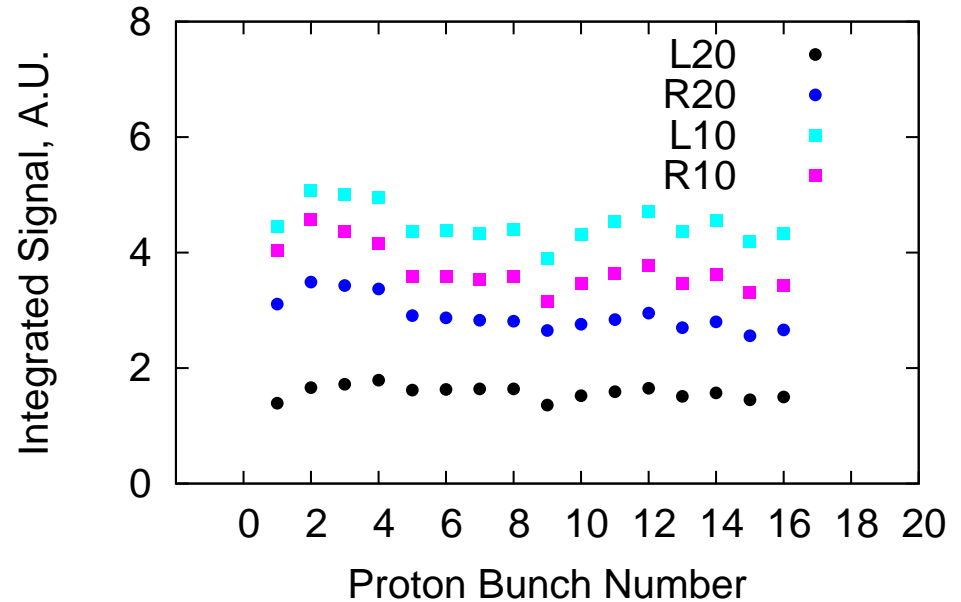
# Shot 17013 - 60 $\mu$ s Delay

Beam Current Transformer - 17013



Probe/Pump  
BCT = 1.068

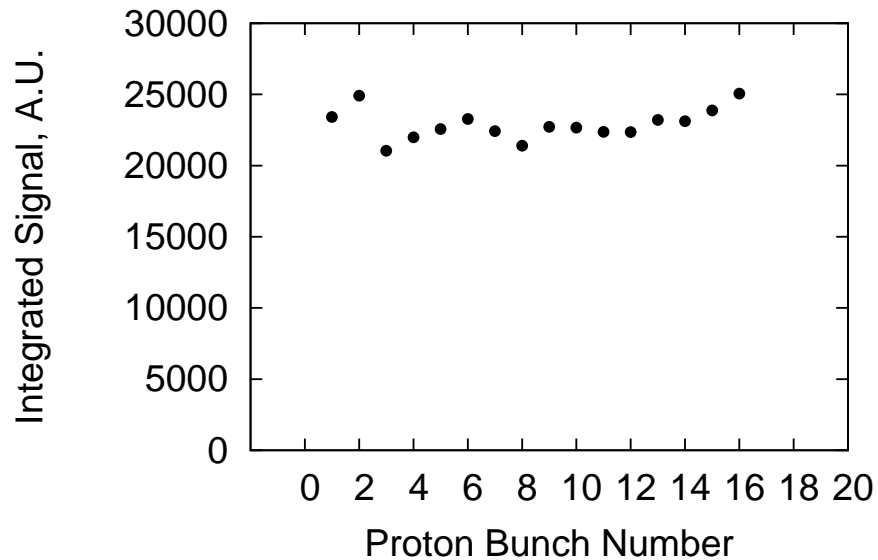
Shot 17013 - 60 $\mu$ s Delay



Probe/Pump  
L20 = 0.927  
R20 = 0.883  
L10 = 0.944  
R10 = 0.886

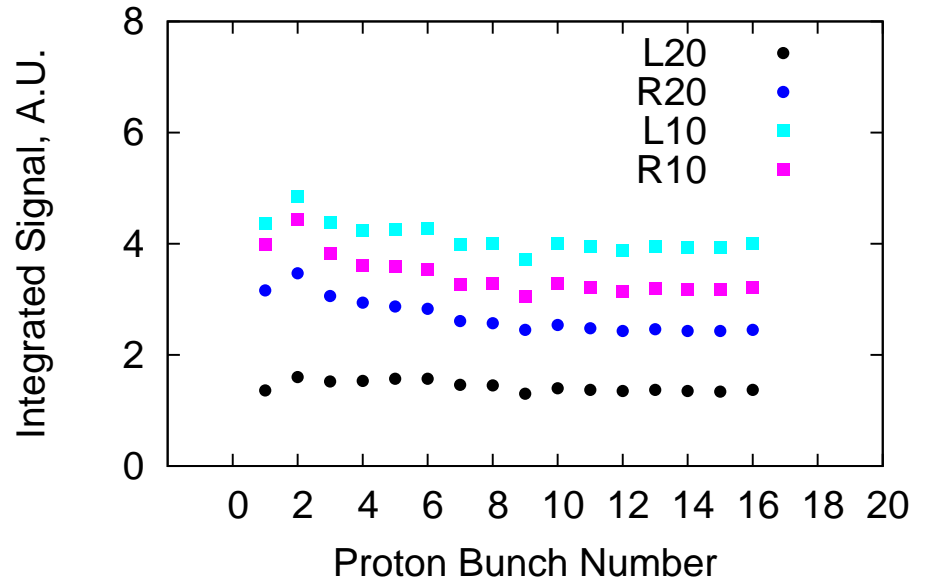
# Shot 17018 – 3.2 $\mu$ s Delay

Beam Current Transformer - 17018



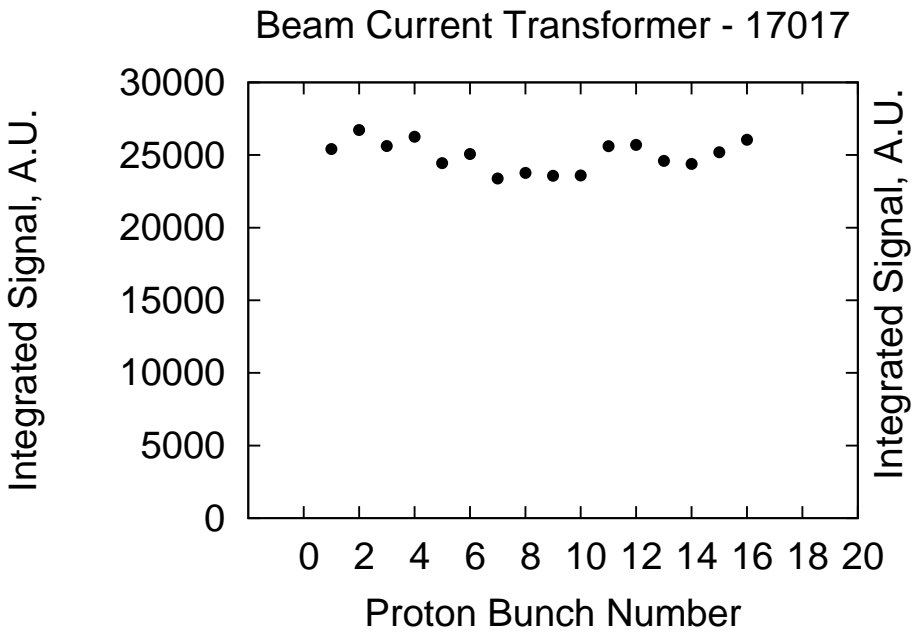
Probe/Pump  
BCT = 1.024

Shot 17018 - 3.3 $\mu$ s Delay

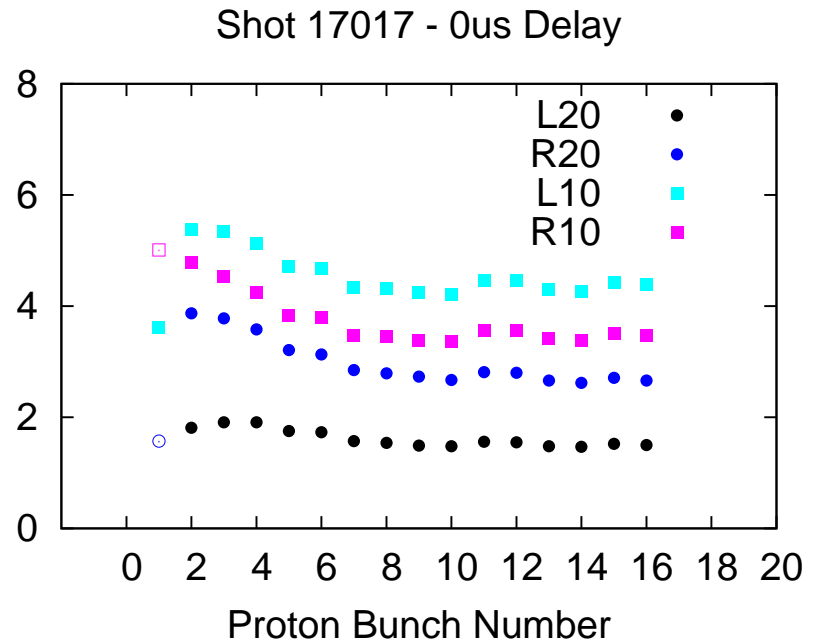


Probe/Pump  
L20 = 0.899  
R20 = 0.836  
L10 = 0.913  
R10 = 0.862

# Shot 17017 - 0 $\mu$ s Delay



Probe/Pump  
BCT = 0.990



Probe/Pump  
L20 = 0.874  
R20 = 0.807  
L10 = 0.895  
R10 = 0.848