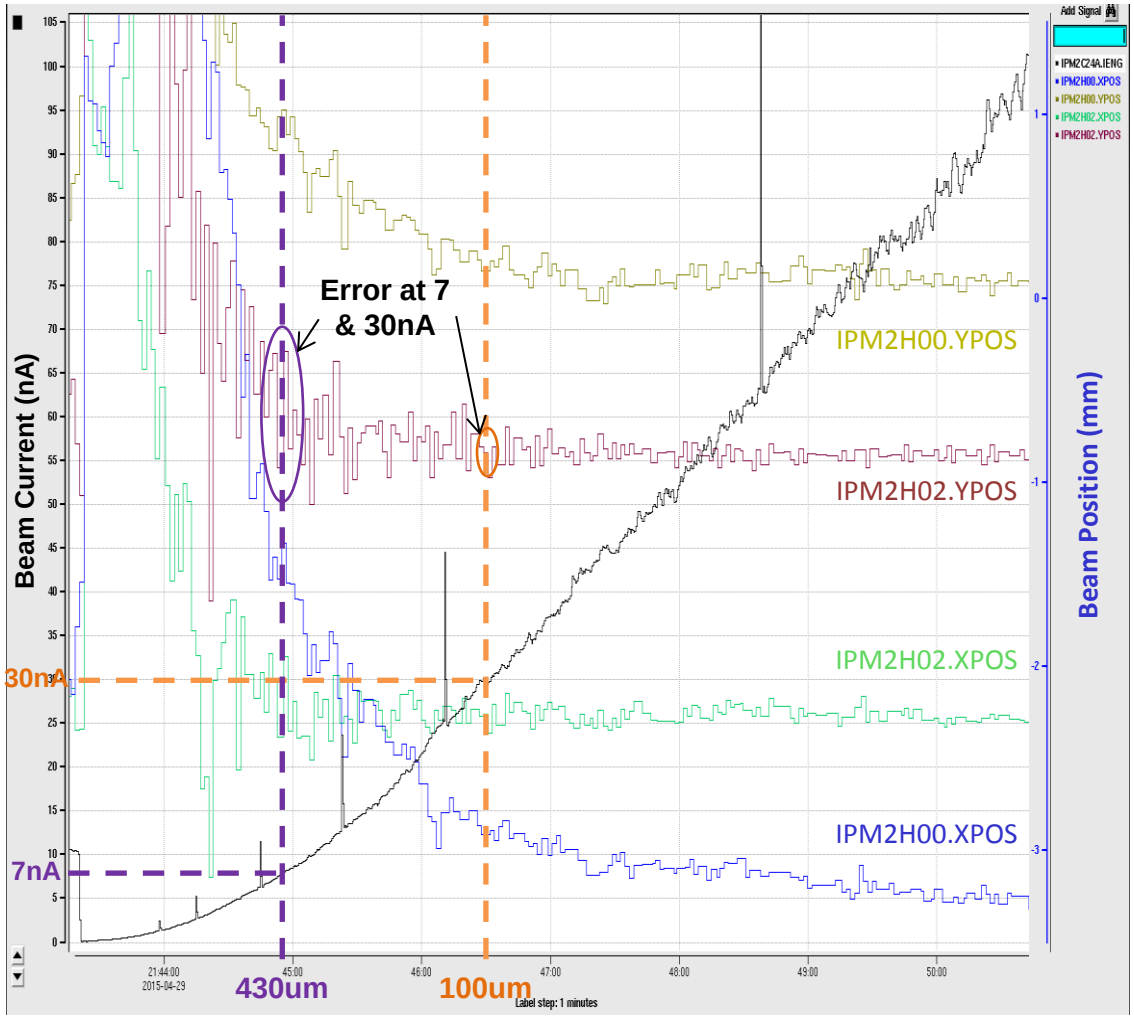
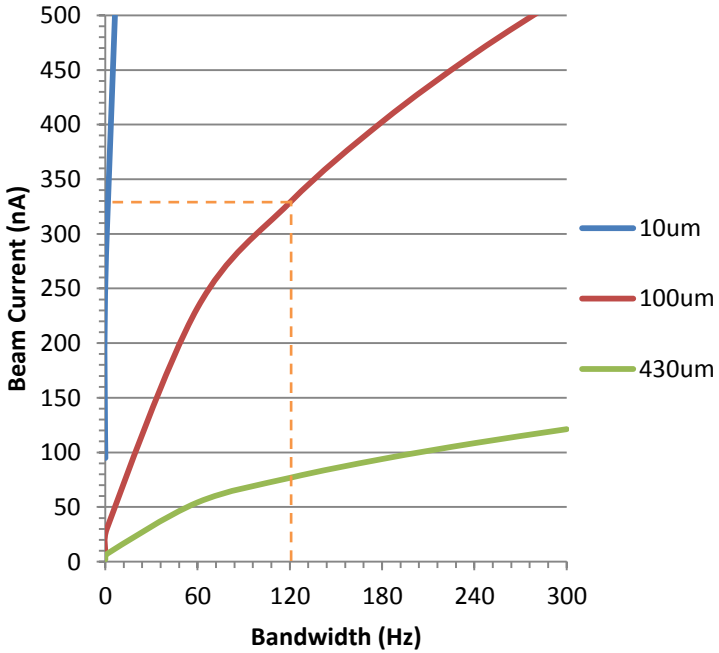
Stripline Bandwidth vs Resolution

Current Ramp from 0 to 100nA with 1Hz Bandwidth



Stripline BPM Performance

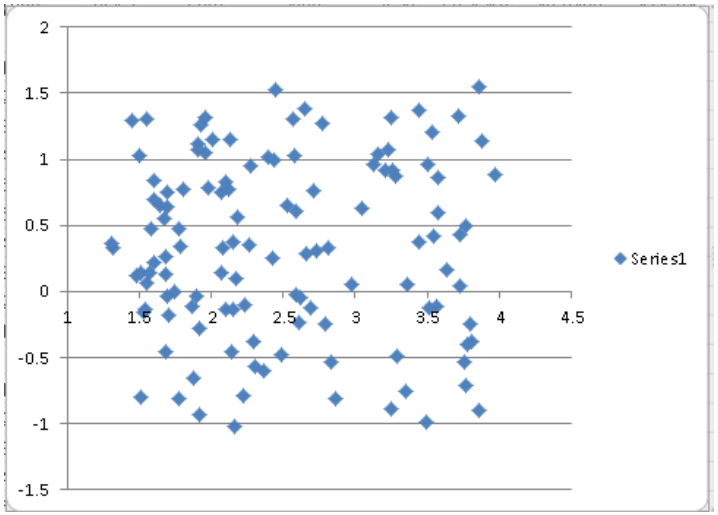


100um resolution at 30nA with 1Hz BW

	100um	430um
BW Hz	Beam nA	Beam nA
0.1	9	2
1	30	7
60	232	54
120	329	77
180	402	94
240	465	108
300	520	121

Bandwidth vs Resolution

~30 nA @ 10 Hz

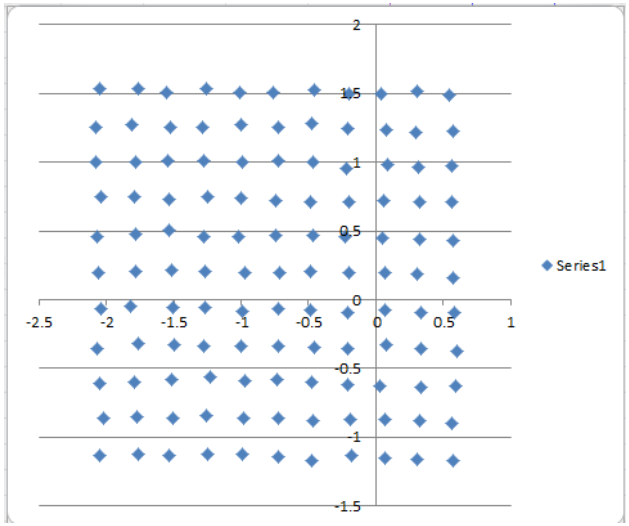


250 um

Step Scan

Position map improves by tightening bandwidth

~30 nA @ 1 Hz



- Improving the signal-to-noise improves performance
- Filtering down to 1 Hz instead of 10 Hz gives an improvement factor of about 3.2
- This square root of bandwidth improvement holds true as long as the noise is Gaussian