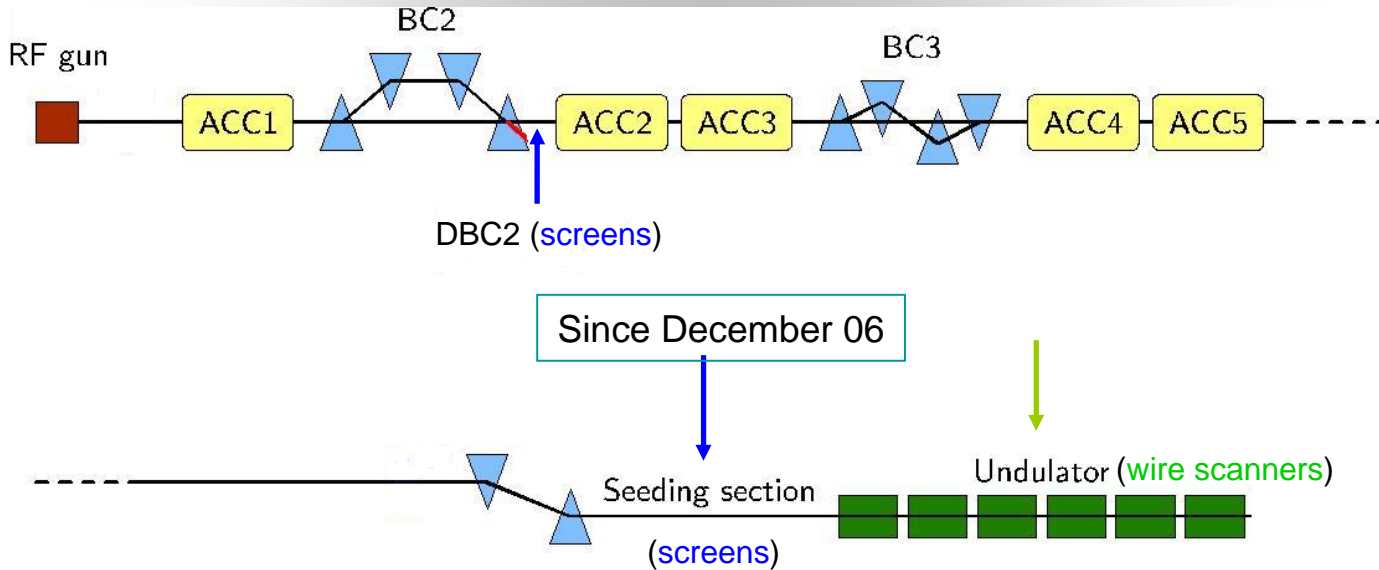


Wire scanner measurements in the FLASH undulator

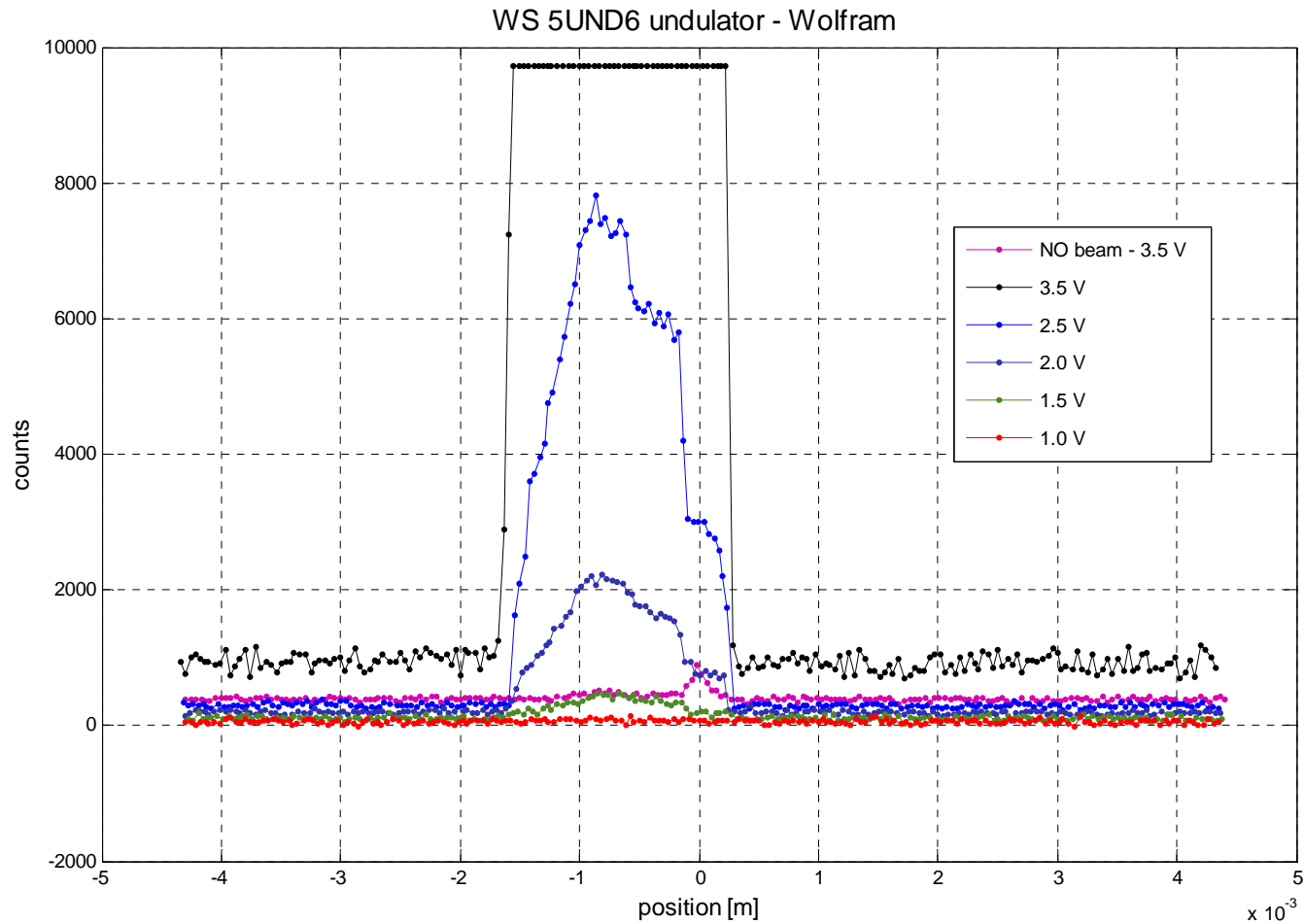
Florian Loehl, Eduard Prat
XFEL Beam Dynamics Meeting, 15 January 2007

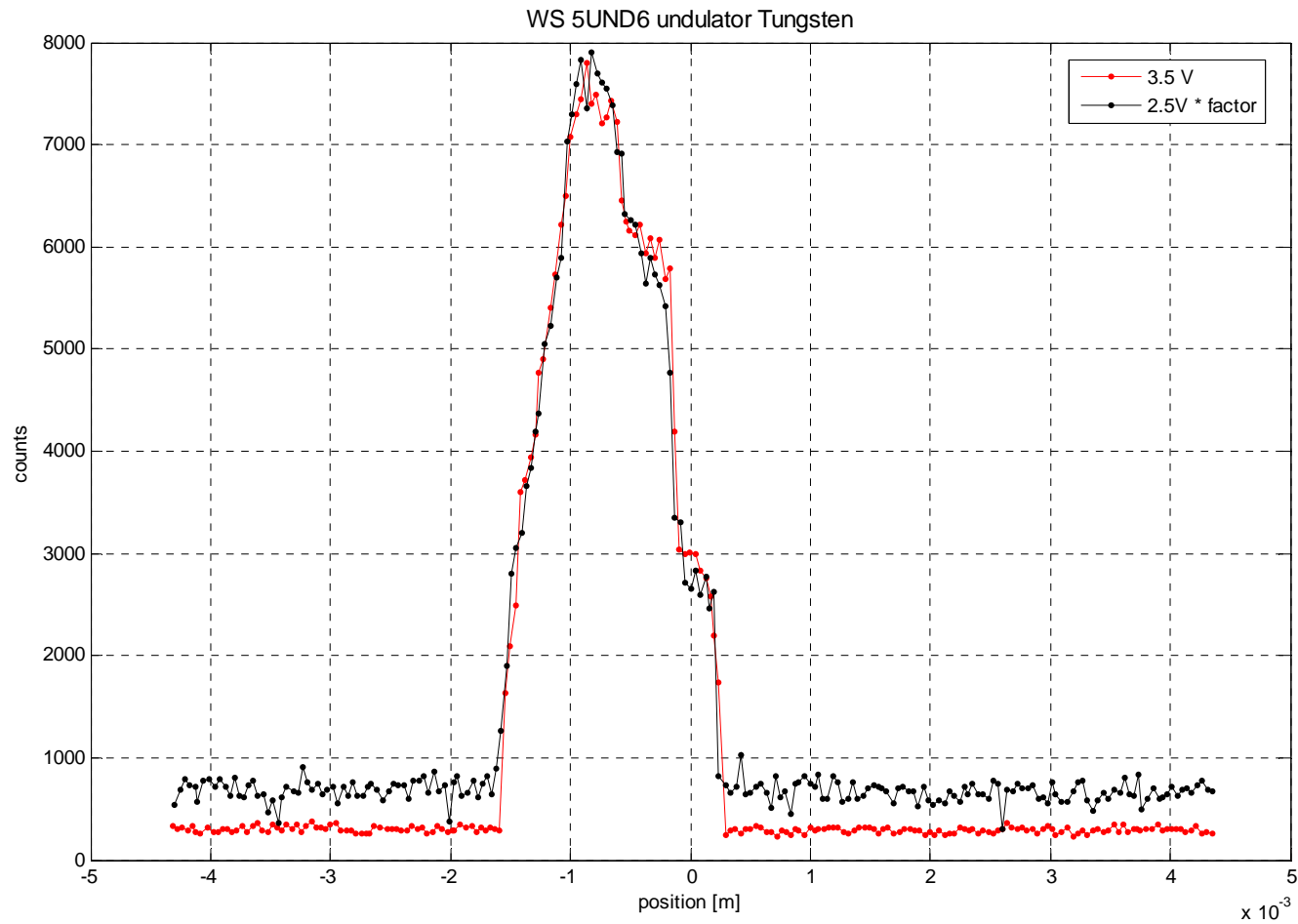
- There are 3 different wires:
 - 50 μm Tungsten (the one we have been using all the time)
 - 10 μm Tungsten
 - 10 μm Carbon

- ✓ We have scanned horizontally the different wires at 5UND6 with different voltages (~15 scans in ~ 1 hour)

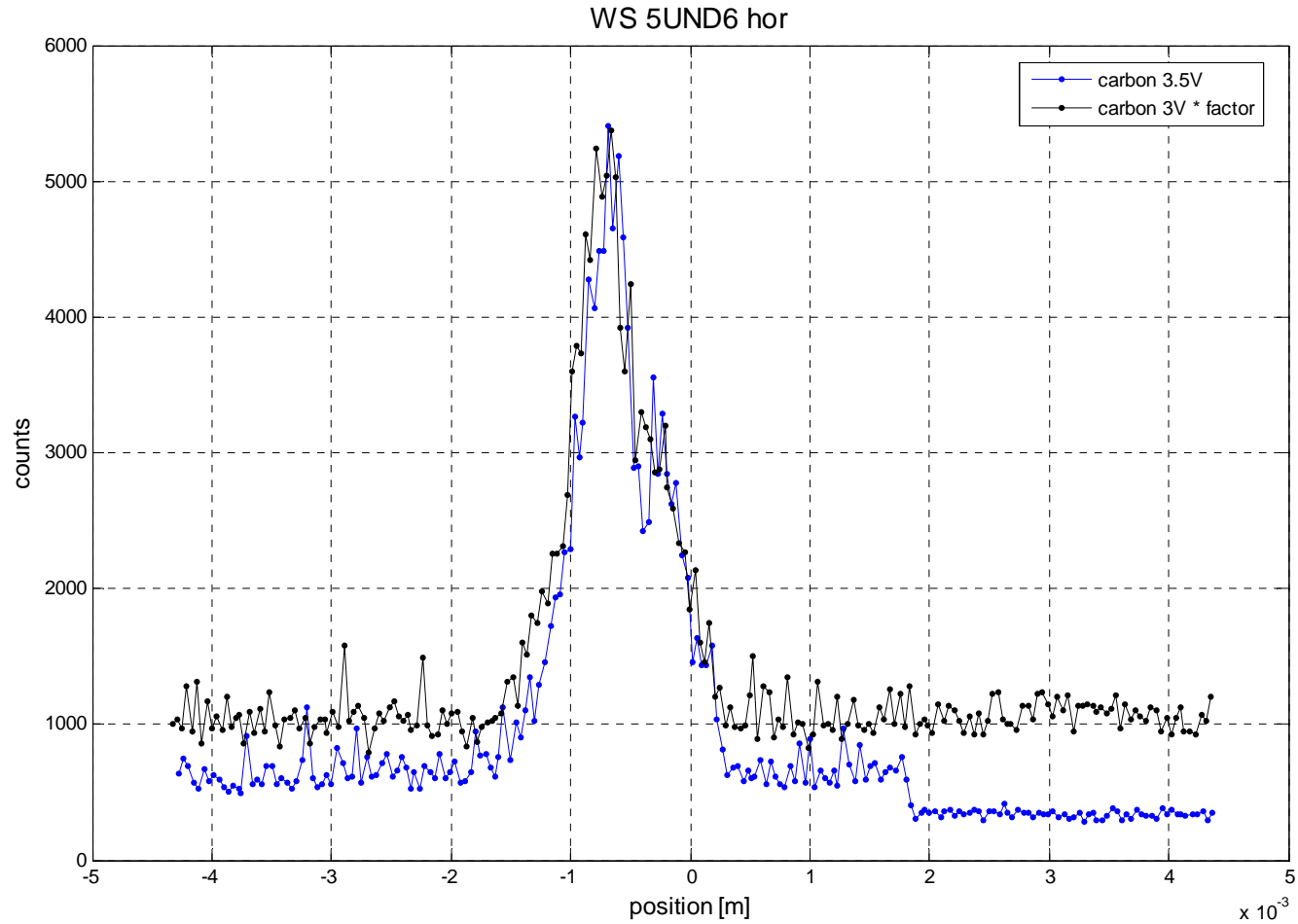


- Before December 06:
 - Emittance increase from DBC2 to undulator by a factor from 2 to 4 or imaginary emittance in the undulator
 - Not possible to match the optics in the undulator
- Preliminary results from December 06
 - Emittance conservation from DBC2 to SEED section
 - Same problem in the undulator as before: imaginary values or emittance increase (now from SEED!), ...

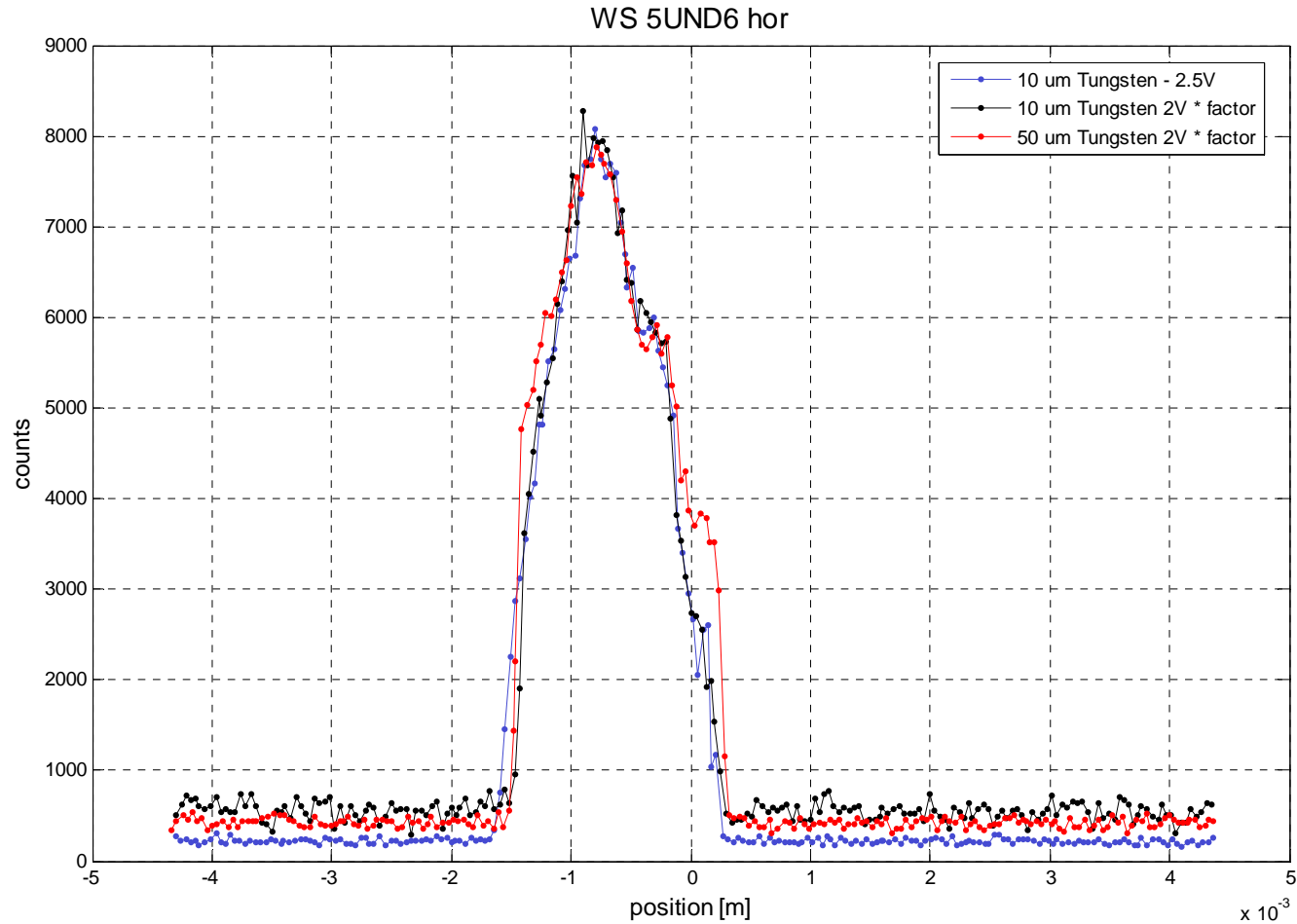




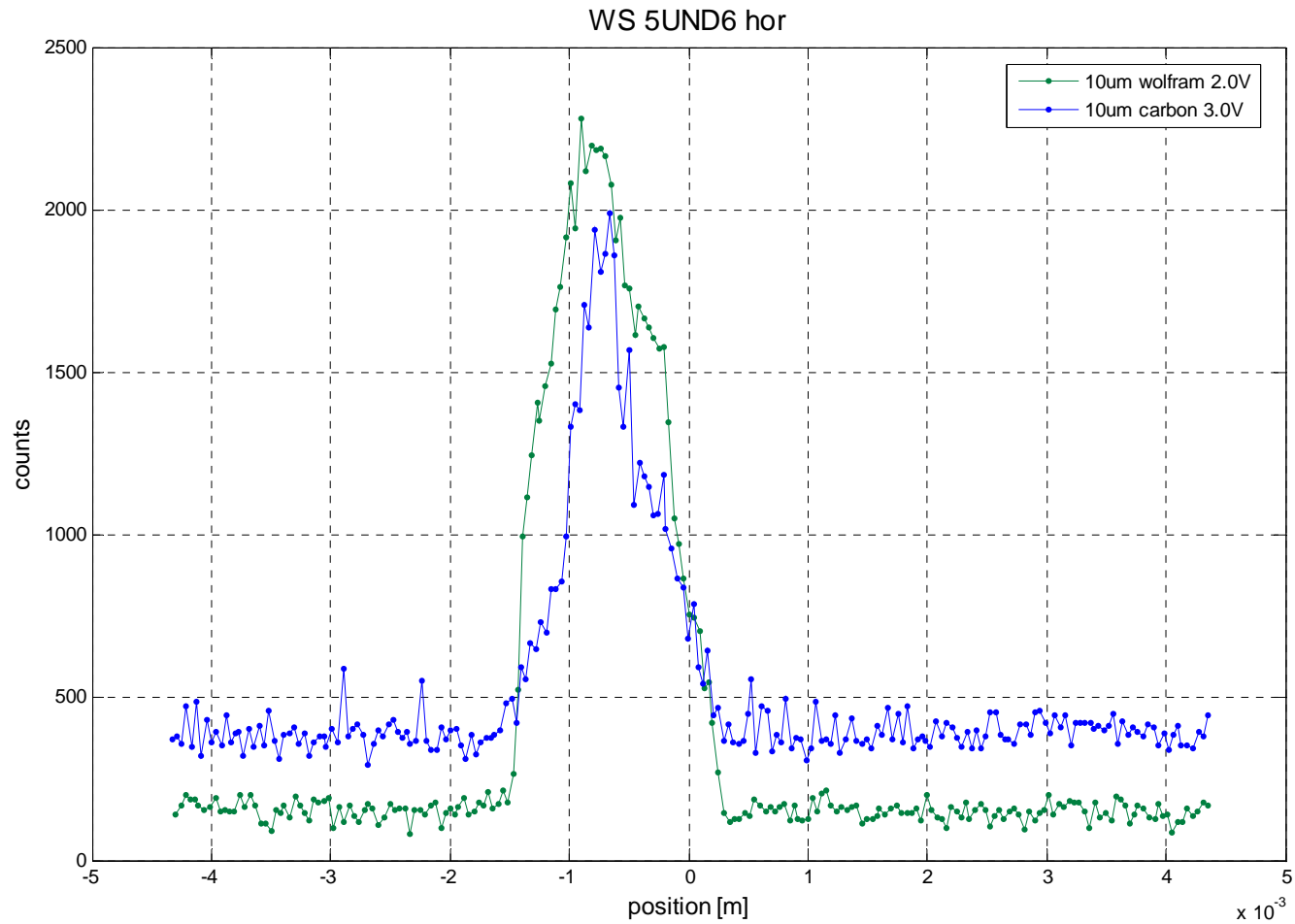
10 μm Carbon – 3.0 & 3.5 V



10 & 50 μm Tungsten



Tungsten 10 μ m vs carbon



- Different voltages for the same wire give reasonable results
- Different wires give different beam sizes
(Specially Tungsten vs Carbon)

One possible explanation: non linear behaviour of the photomultipliers