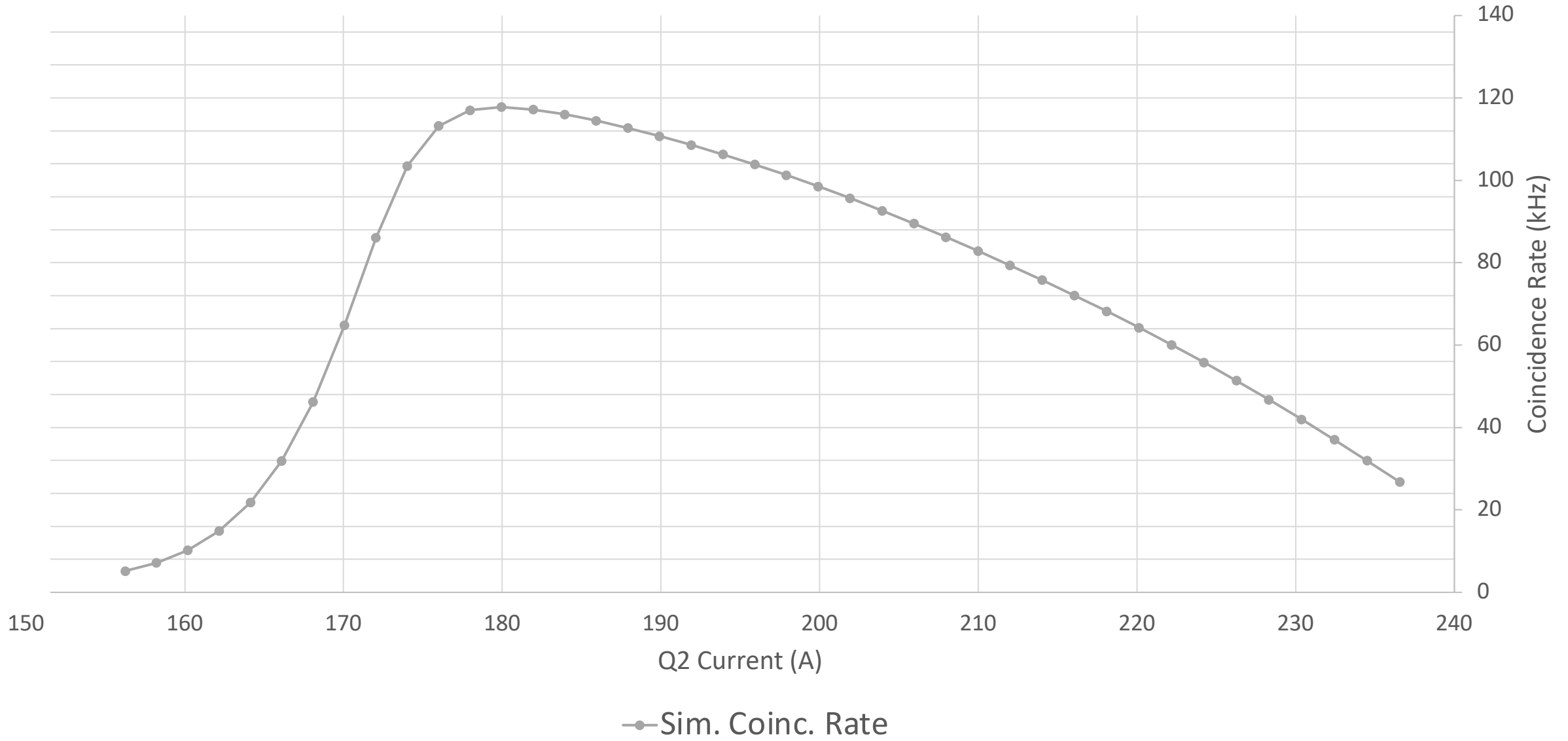


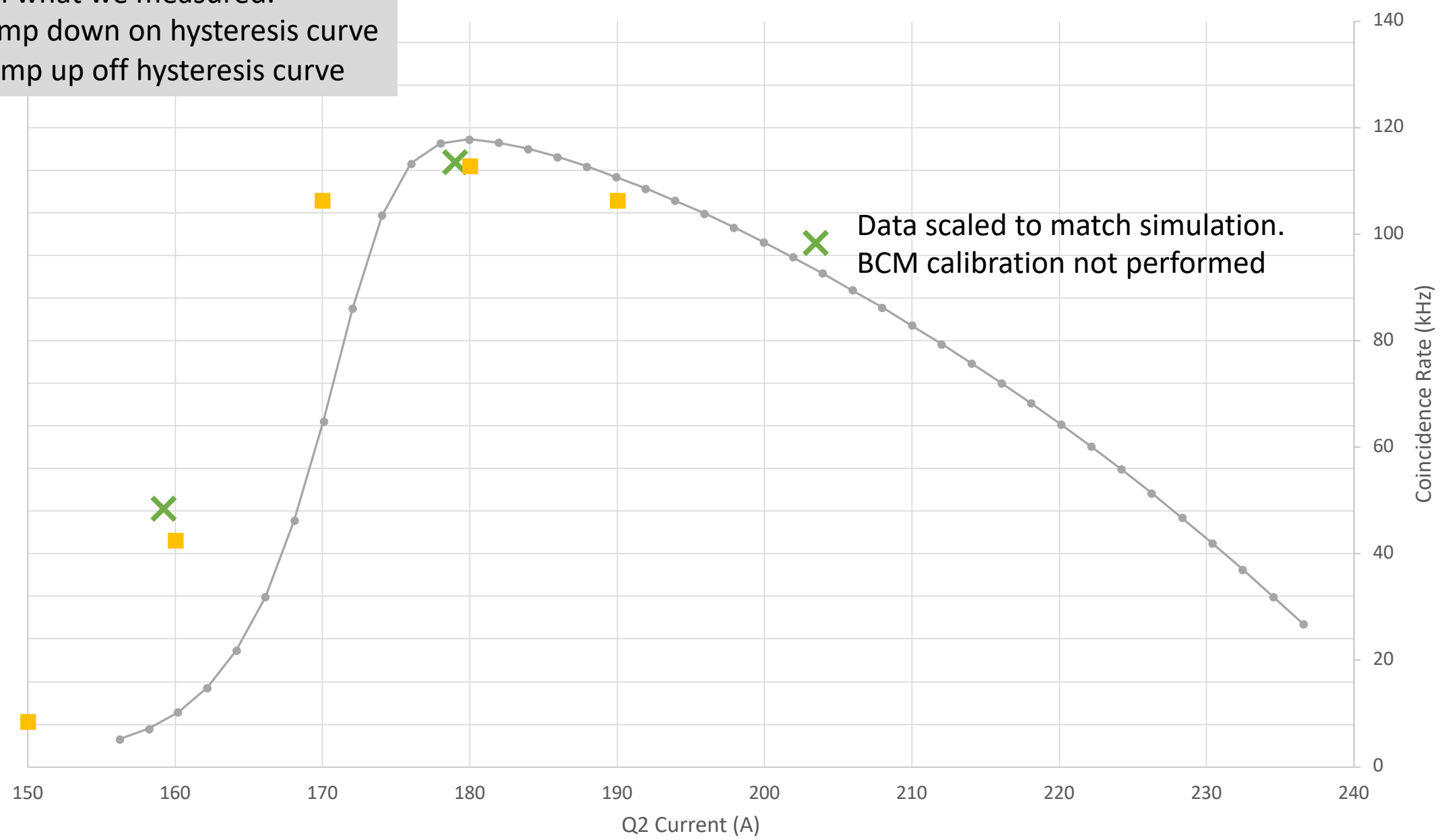
Here's the coincidence rate curve we expect vs Q2 current from the G4 simulation assuming Q3 has wrong polarity

Moller Polarimetry Coincidence Rate vs Q2 Current



Moller Polarimetry Q2 Scans

Now add in what we measured.
Green = ramp down on hysteresis curve
Yellow = ramp up off hysteresis curve



Data scaled to match simulation.
BCM calibration not performed

—●— Sim. Coinc. Rate ✕ Meas. Coinc. Rate Ramp Down ■ Meas. Coinc. Rate Ramp Up

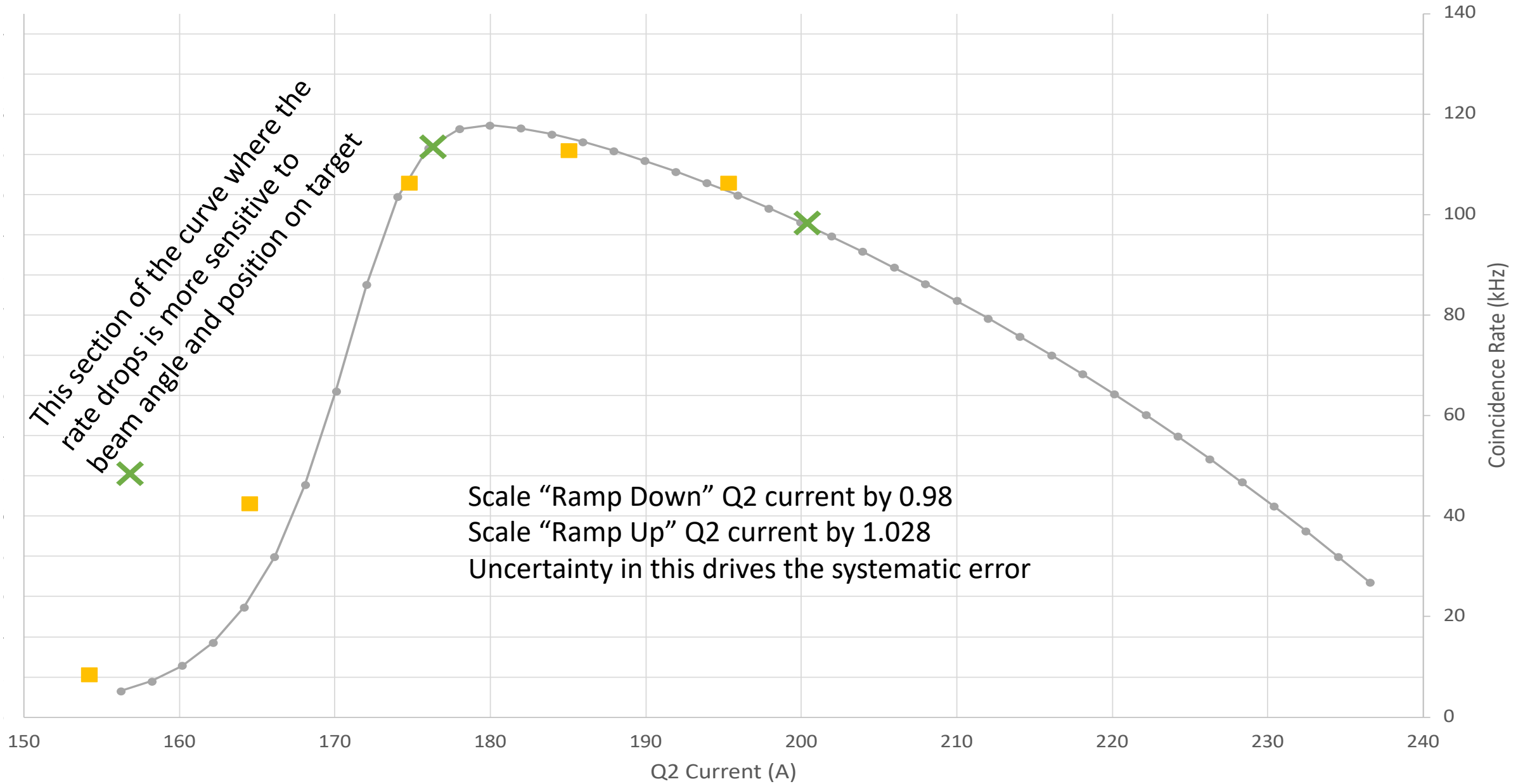
Optics are uncertain the few percent level

- See my technote for detailed information

<https://github.com/jonesdc76/MollerPolarimetry/blob/master/quads/QuadrupoleInfo.pdf>

- Some systematic uncertainty in the maps we have plus...
- We likely don't run on the same hysteresis curve where they were measured
- When we were doing the ramp up scan we were asking for currents trying to find the peak and not worried about being on the usual hysteresis curve so didn't ask for repeated cycling. This could mean we are several percent off
- Cycled magnet before polarization measurements/ramp down
- Since our BCM isn't calibrated, we will likely have to scale our data in both quad field/current and rate to match sims

Moller Polarimetry Q2 Scans

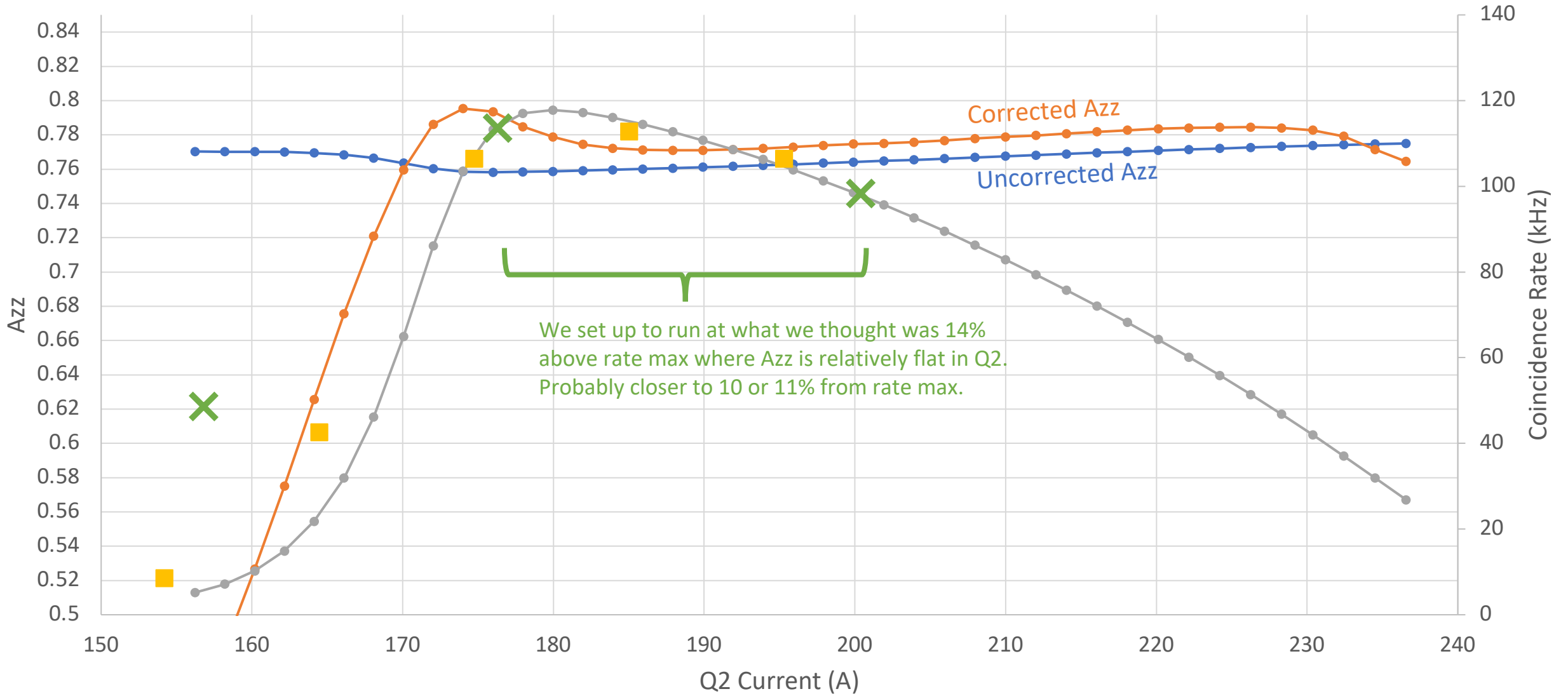


—●— Sim. Coinc. Rate

—X— Meas. Coinc. Rate Ramp Down

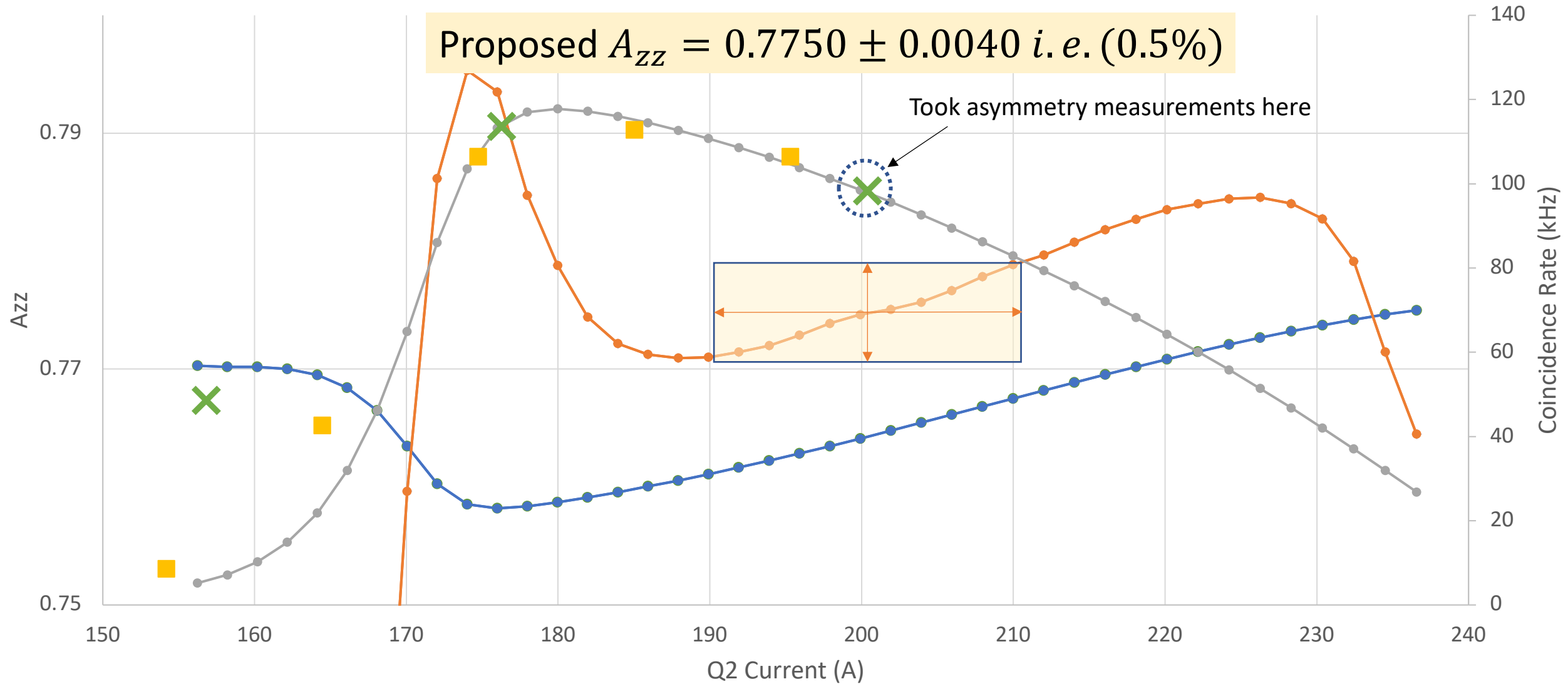
—■— Meas. Coinc. Rate Ramp Up

Now add in Azz, the analyzing power of our Fe foil target as a function of Q2



- Uncorrected Azz
- Corrected Azz
- Sim. Coinc. Rate
- X— Meas. Coinc. Rate Ramp Down
- Meas. Coinc. Rate Ramp Up

Moller Polarimetry Q2 Scans



—●— Uncorrected A_{zz}

—●— Corrected A_{zz}

—●— Sim. Coinc. Rate

—X— Meas. Coinc. Rate Ramp Down

—■— Meas. Coinc. Rate Ramp Up

Under these conclusions...

