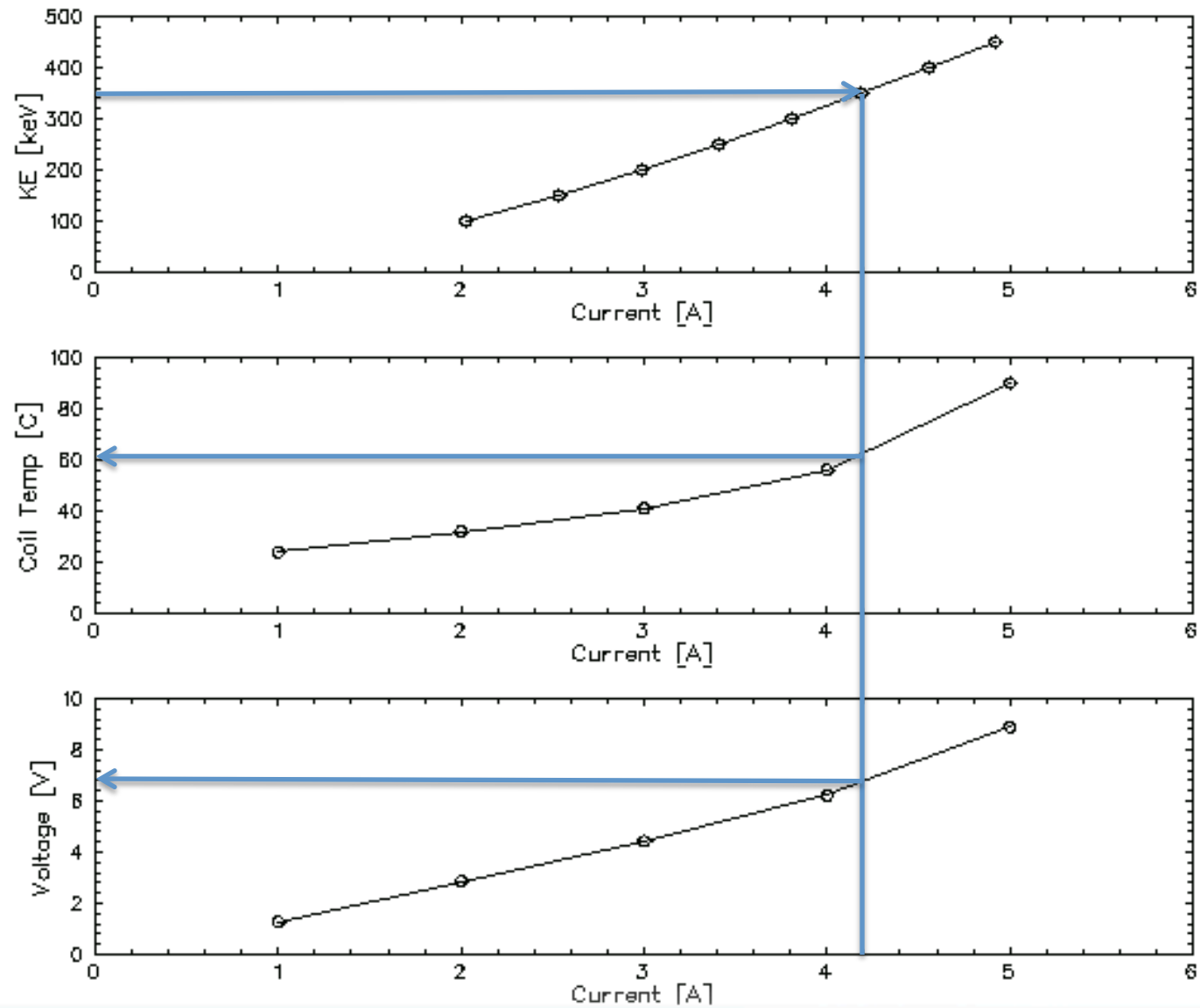
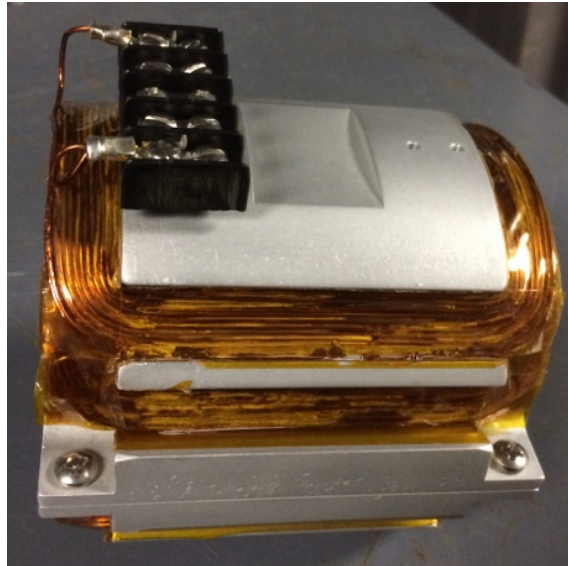


## Comment on 15 deg bend magnet

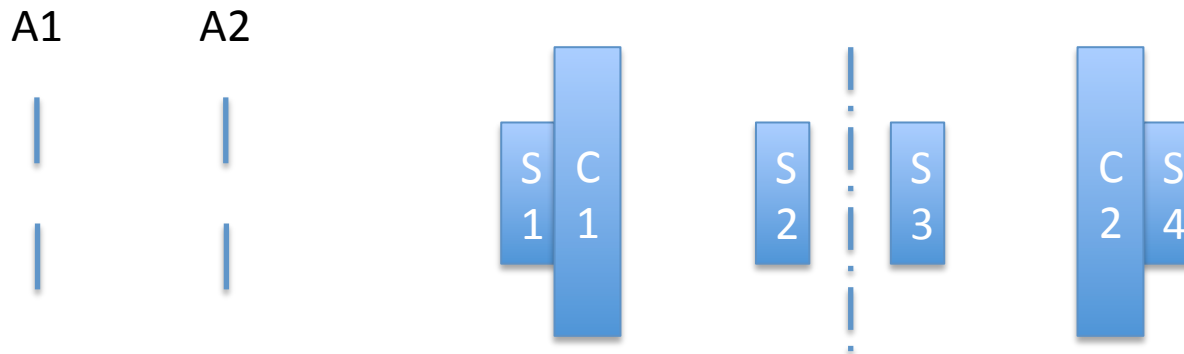


## Comment on 15 deg bend magnet



1. Existing ITCU DS should run fine (4.2A, 7V) at 350kV OK, although warm at about 60C.
2. Next upgrade: wind new coils on existing fixture w/ AWG16 (~40% improvement).
3. Next upgrade: fab longer fixture+coil. Fractional length of straight > total length of wire.
4. Next upgrade: iron magnet

## Comment on Chopping Setup



A1 and A2 define largest transverse emittance.

S1 images A1 on chopping plane

C1-S2-S3-C2: 
$$\begin{pmatrix} 0 \\ -x' \end{pmatrix} = \begin{pmatrix} M11 & M12 \\ M21 & M22 \end{pmatrix} \begin{pmatrix} 0 \\ x \end{pmatrix} \quad \Rightarrow \quad \begin{matrix} M12 = 0 \\ M22 = -1 \end{matrix}$$

Focal length of S2 is the C1-S2 distance

Choose C1 kick for displacement at chopper plane.

Make S2-S3 distance as small as mechanically reasonable

## Comment on 1497 MHz chopper cavities

TN-90-214, C. Yao – Comparison of measurement and MAFIA (agrees 50%)

TN-90-234, G. Krafft – Includes relativistic correction, deflection equation, cavity parameters

Typical parameters:

$(R/Q) \sim 12 \text{ ohms}$

$(Q_0) \sim 14000$

$(\text{Power @ } 100\text{eV}) \sim 21 \text{ W}$

$\text{Required Voltage} \sim (\text{Total Energy}) * (\text{Beta}) * (\text{deflection angle})$

$\text{Required Power} \sim (\text{Required Voltage})^2 / [ (R/Q) * (Q_0) ]$

Calculate voltage, power for 350kV operation.

Re-measure both cavities