Poster 150: Towards microcalorimetry with sub-eV energy resolution: Metallic magnetic calorimeters with direct sensor readout

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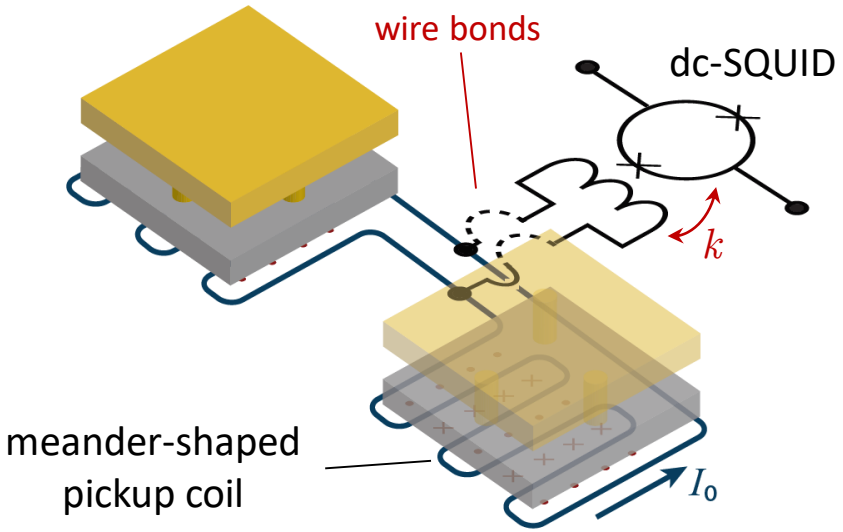
classic readout scheme:
transformer coupled

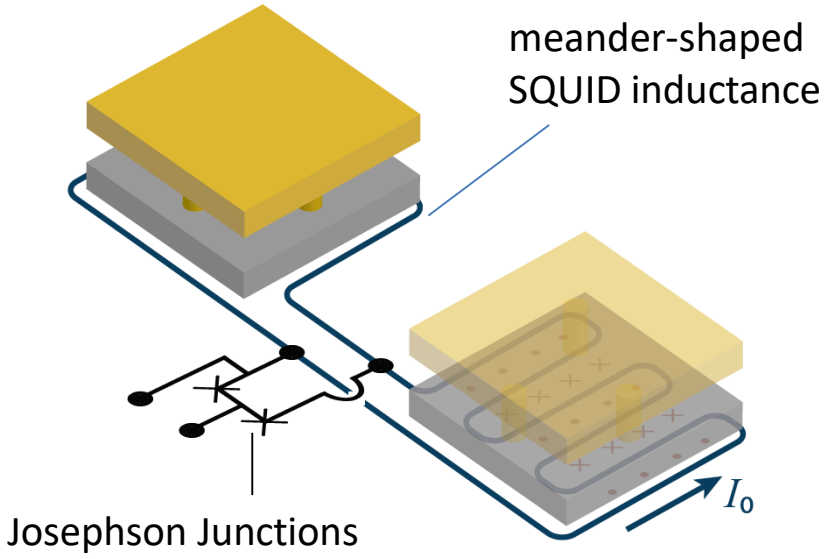
- MMC and SQUID in separate chips
- fundamental transformer losses:

$$\epsilon_c = \frac{4}{k^2}\epsilon_s$$



Different approach:
direct sensor readout

- MMC on top of SQUID inductance
- Significantly increased signal coupling
- Joule heating on detector chip



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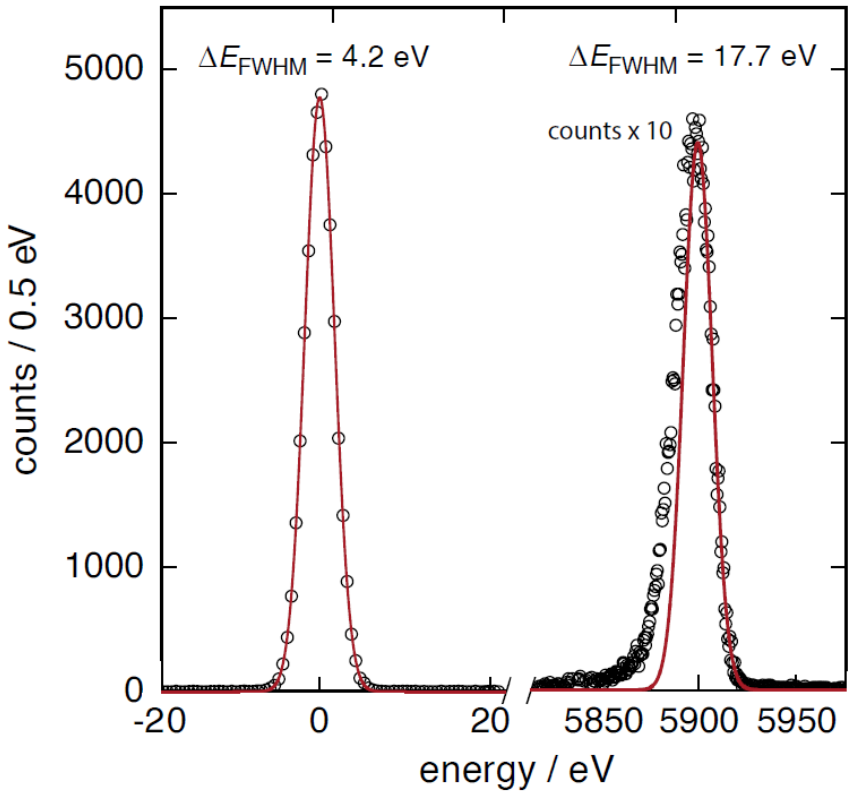
first prototype: 8 x 8 pixel array:



second prototype: 32 pixel linear array: