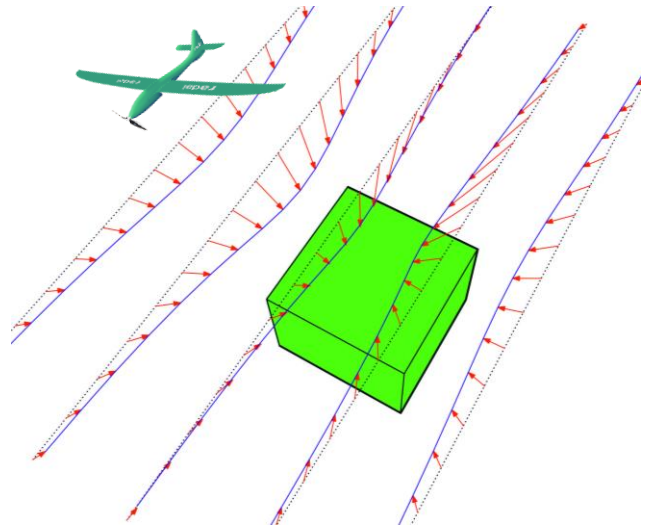


UAV based (vector) magnetic field surveys

Why measure the three components?

- Total magnetic intensity (TMI) gives only the amplitude of the magnetic field
- 3-component data reveals the direction of the field
 - points towards the poles of magnetized units
- Helps 3D magnetic interpretation
- Identifies remanent magnetization



The challenge

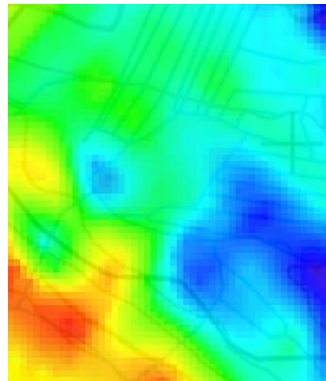
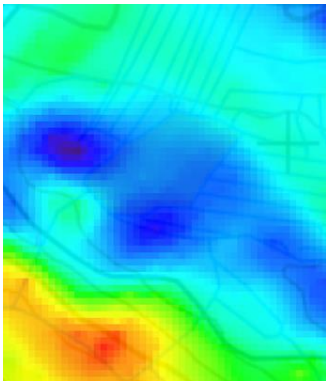
- The great accuracy needed to align different coordinate systems (IMU, FG, base st.)

Radai's solution

- 3-component fluxgate (FG) magnetometer both
 - onboard the UAV
 - and at the base station
- Accurate IMU measures UAV orientation (rpy $\pm 0.25^\circ$)
- Careful compensation of the measured data
- Equivalent layer modelling (ELM) is used to fine-tune the magnetic data

X component

Y component



Z component

Total field

