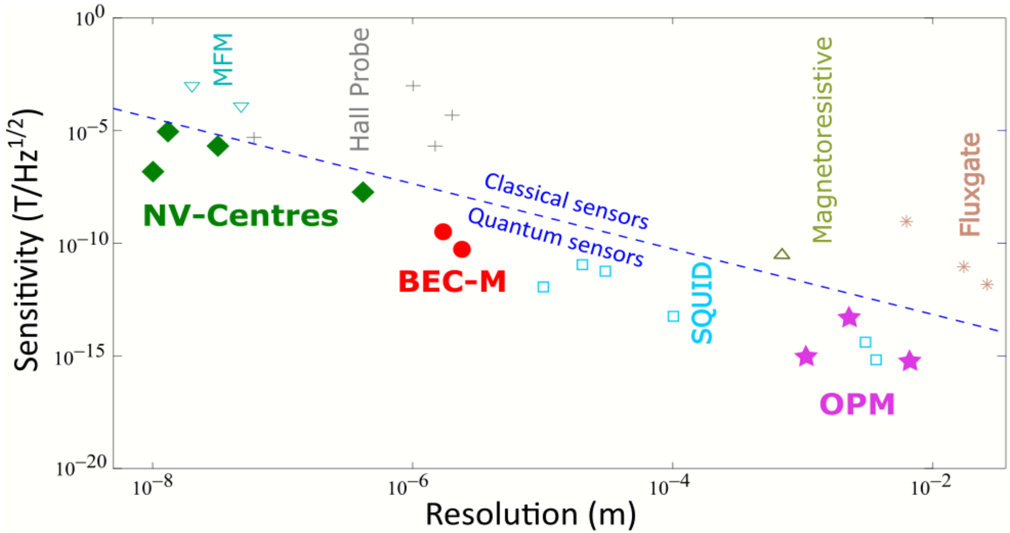

Figure 1: General trend for magnetometers: the trade-off between sensor sensitivity and spatial resolution. Markers are individual demonstration examples. Classical technologies shown on the graph are Fluxgate, Magnetoresistive sensors, Hall probe and MFM (Magnetic force microscope), all of them outperformed by quantum sensors.

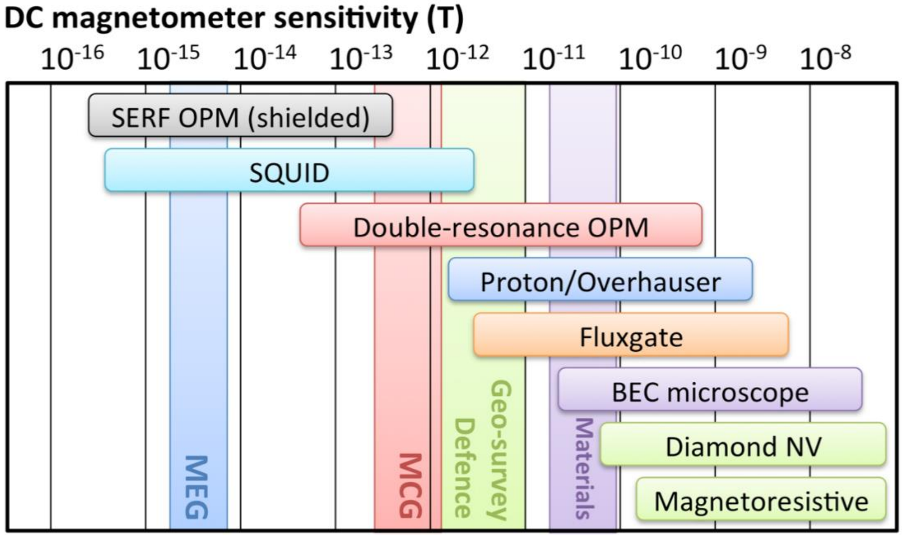

Figure 2: Magnetometer sensitivities to DC fields. Horizontal bars extend from best sensitivity (left edge) to the maximal dynamic range (right edge) achievable for each technology. Classical technologies are Proton/Overhauser, Fluxgate, and Magnetoresistive sensors.

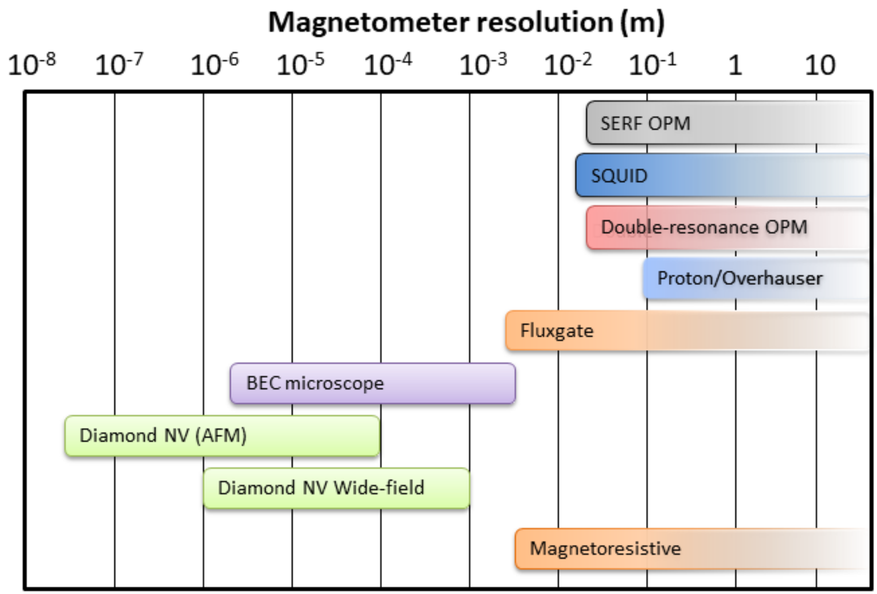

Figure 3: Magnetometer resolution summary. Horizontal bars show best achievable resolution (left edge) and the field-of-view (right edge) for each technology. In case of sensor arrays the field-of-view can be extended almost arbitrarily, this is indicated as the horizontal bars fading out.

NV centre scanning probe	Nanoscale resolution
NV centre wide-field microscope	Large field-of-view, intrinsic biocompatibility
BEC microscope	High sensitivity, good resolution, large field-of-view single shot image
OPM in shielded environment	Record sensitivity
OPM (unshielded)	Excellent sensitivity, large bandwidth

Table 1: Key benefits of different quantum magnetometer technologies.