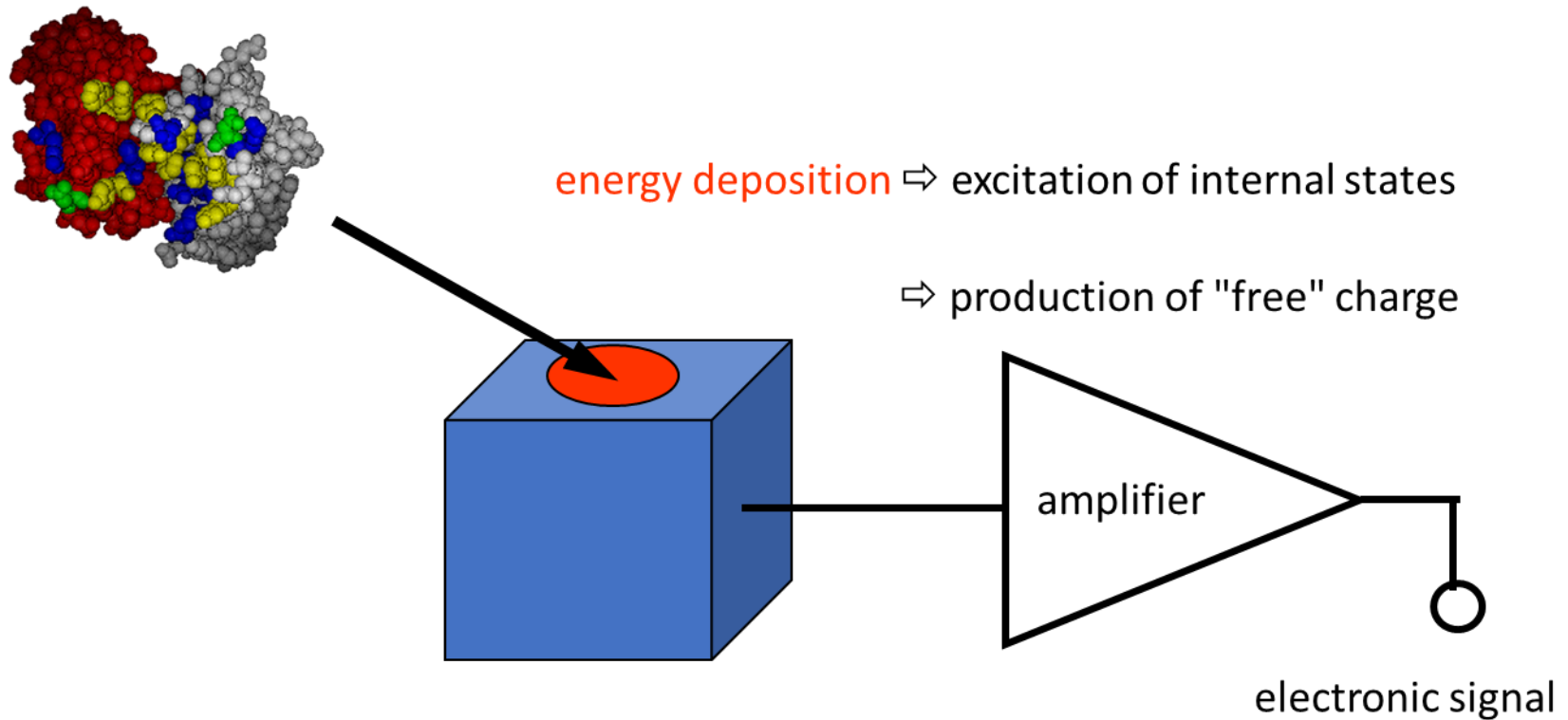


Cryogenic Particle Detectors:

detection mechanism: internal energy excitations (meV)

incoming particle (photon, charged particles, molecules)



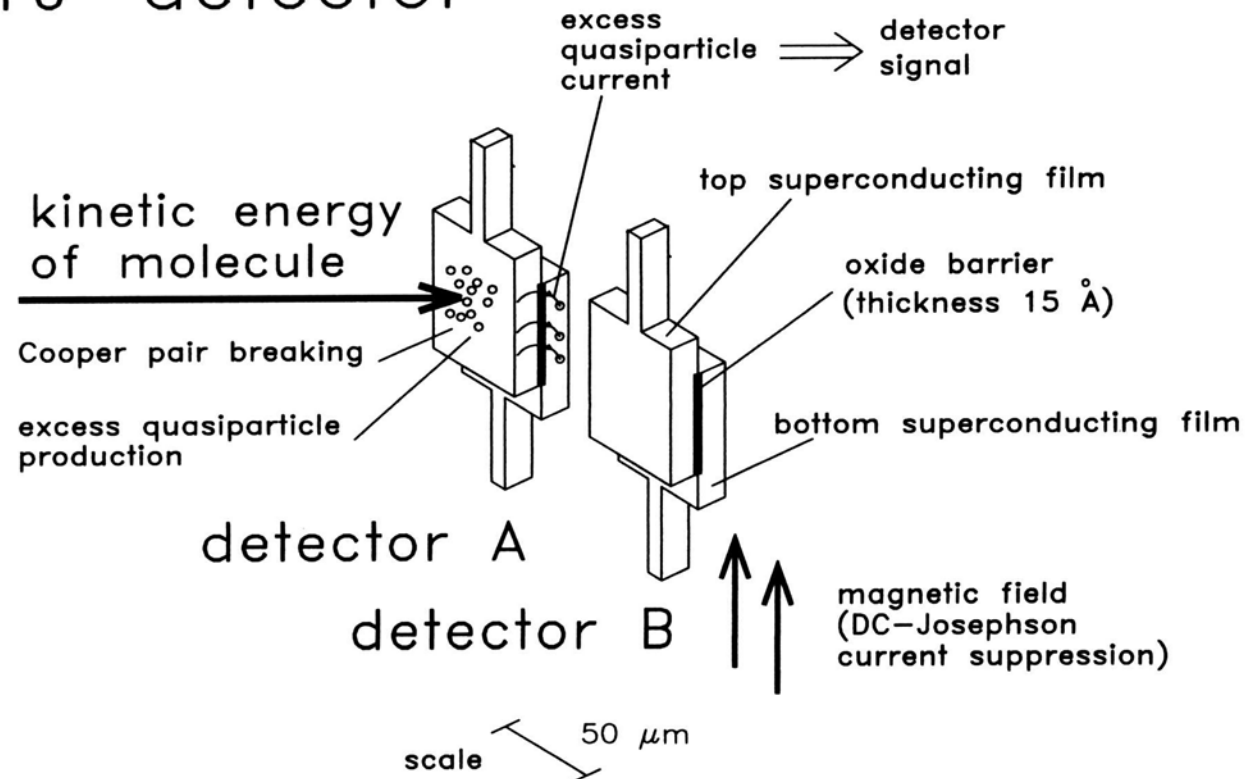
CryoDetectors operate at temperatures < 1 K

Superconducting Tunnel Junctions

pioneering work at Neuchâtel (1996) D.Twerenbold et al.

50 μm x 50 μm , Sn-STJ detector, operated at 300 mK

STJ-detector

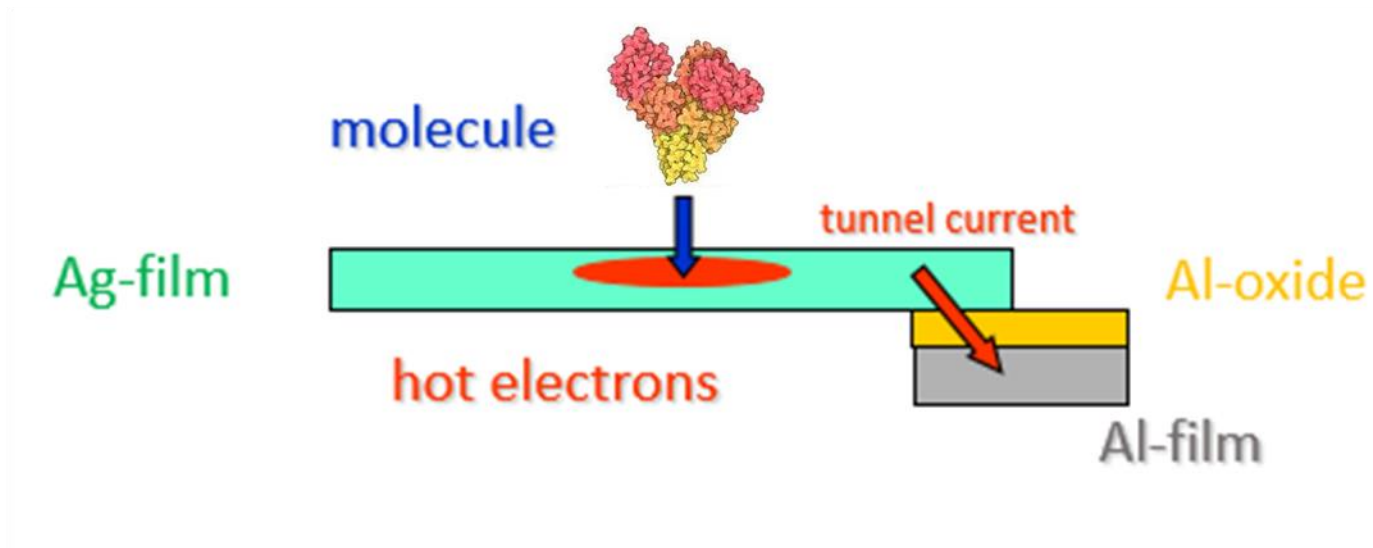


Microcalorimeter

collaboration (1998)

- NIST (Boulder)
- Institut de Physique, Neuchâtel
- GenSpec SA, Neuchâtel

200 μm x 200 μm
microcalorimeter
operated at 100 mK



Fundamentals of Calorimetric Detection

electronic and **phonon** excitations
can be coupled to an **electrical** signal

