

elemental analysis by x-ray fluorescence

*one hierarchy of
materials theory*

*an introduction to
spectroscopy*

*electron spectroscopy
and dispersion*

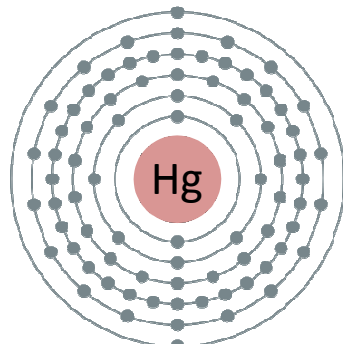
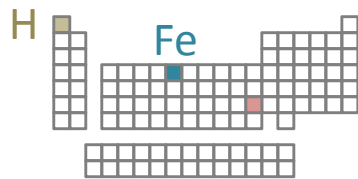
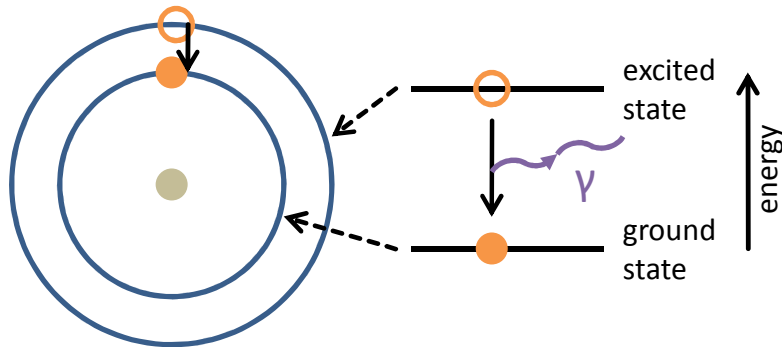
*interaction and
emission*

mapping

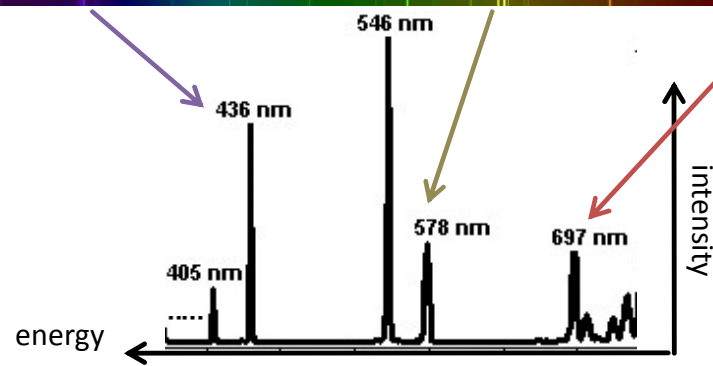
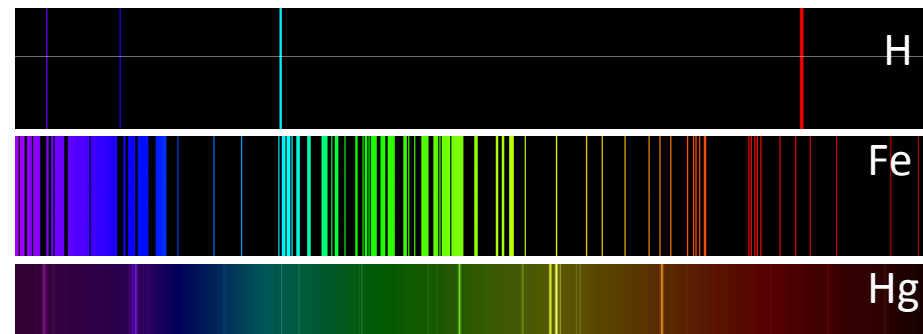
condensed matter

↳ a large number of strongly interacting constituents

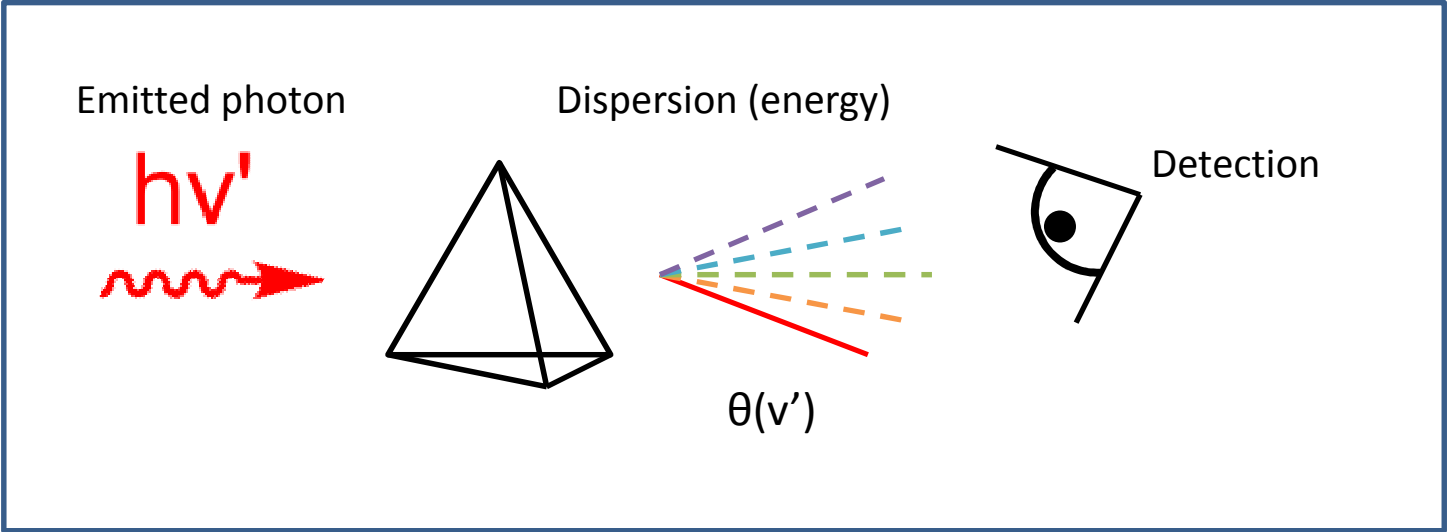
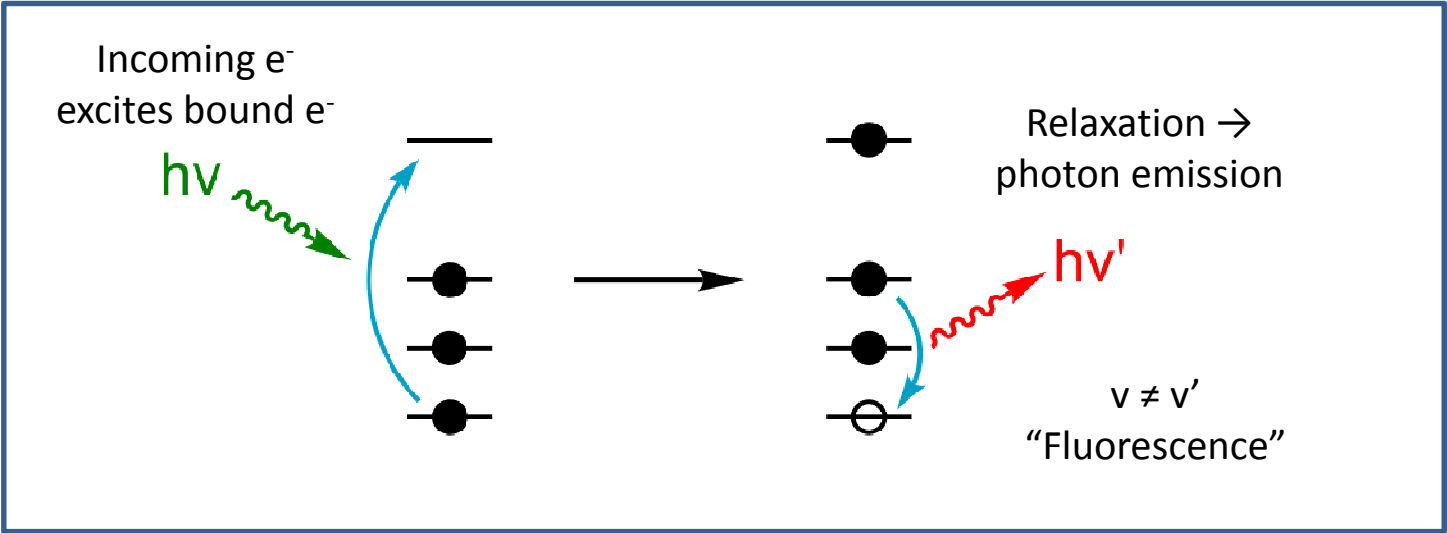
solid state	crystallographic	statistics + symmetry	thermodynamics, criticality, excitons, order (phases), topology, lattice (diffraction),
	electronic	band structure	(energy-momentum) dispersion relation, (semi-, super-) conductivity, energy levels
	chemical	changes + interactions	elemental analysis (spectroscopy)



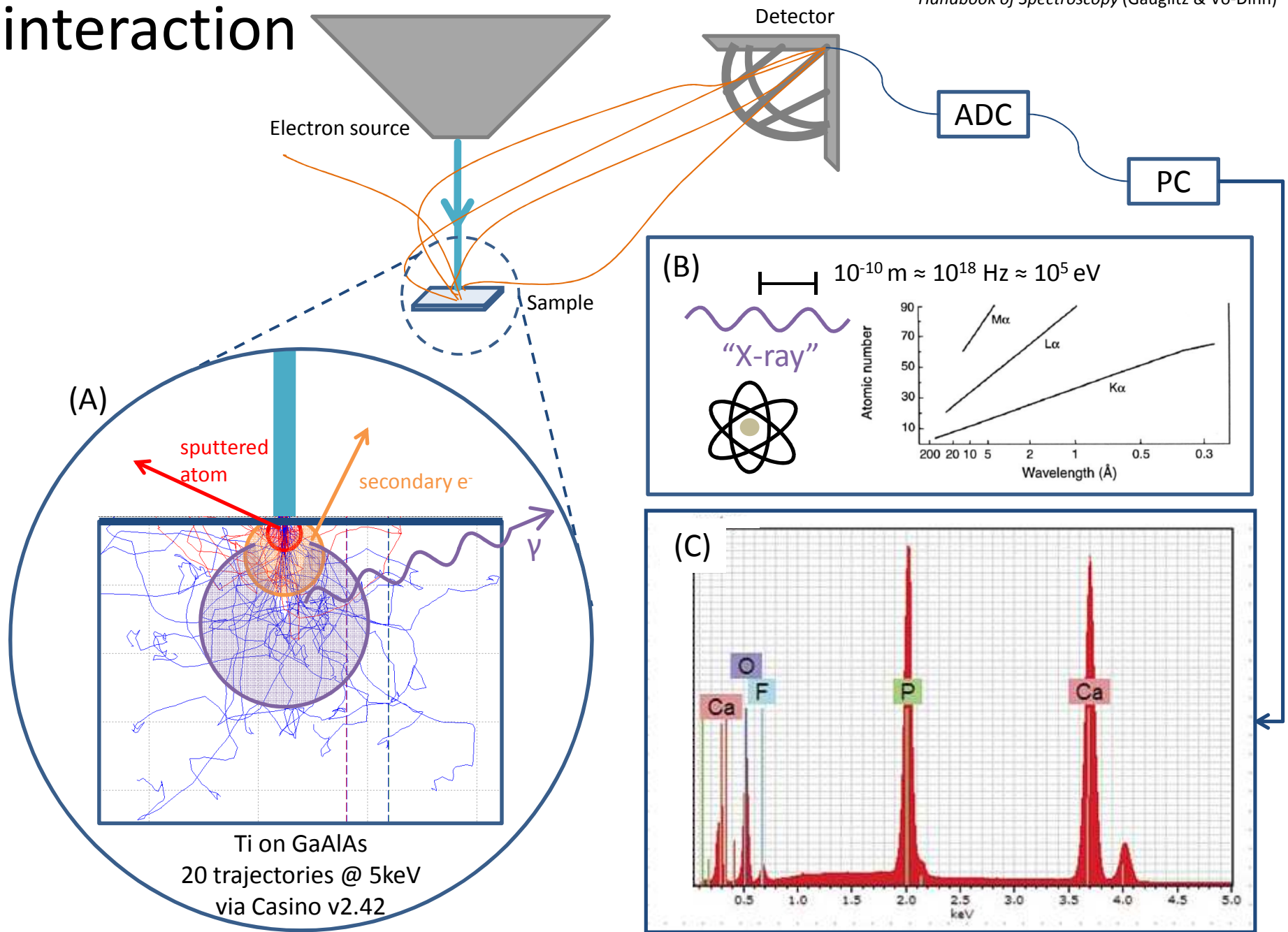
Greg Robson / CCA-SA2.0 UK



electron spectroscopy

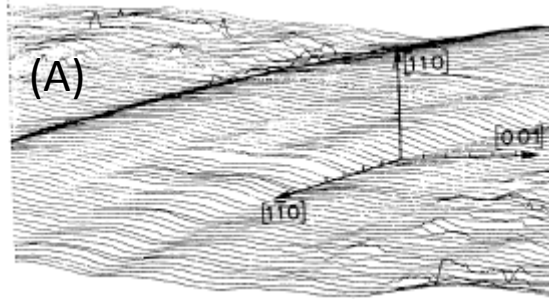


interaction



mapping

(A) topography by STM



Binning, Rohrer, Gerber, Weibel PRL 49, 57 (1982)

(B) etymology of *raster*

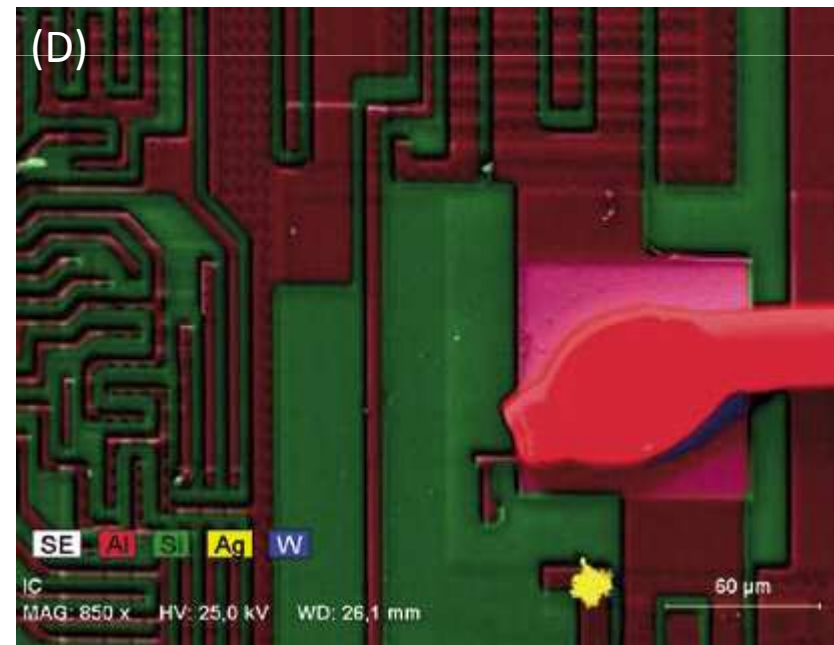
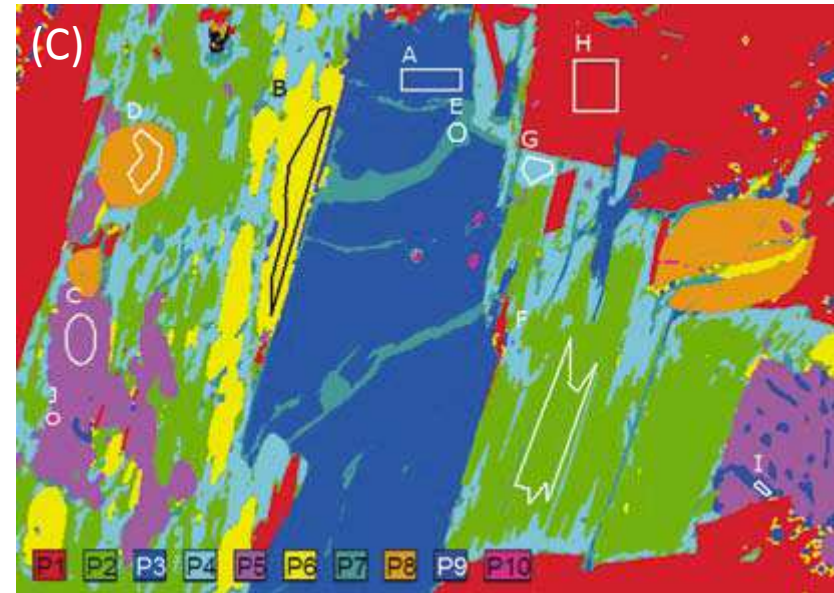
RÄSTER, RÄSTRUS and -UM.
An agricultural implement of a mixed character, between our *fork*, *rake*, and *hoe*, both as regards the form of the object and the manner in which it was used. It resembled the fork and rake, in so far that the head, which was made of iron (Cato, *R. R.* x. 3. xi. 4.), but very heavy (Virg. *Georg.*



i. 164.), contained two, three, or sometimes four prongs (*quadridens*, Cato, *ll. cc.*), set at intervals apart (Isidor. *Orig.* xx. 14. 6., *a raritate dentium*), and arranged, like the rake, transversely across the handle at right angles with it, not in direct continuation, like the common fork :

A Dictionary of Roman and Greek Antiquities (1890)

(D) elemental map of a circuit board by EDX



BRUKER QUANTAX promotional literature / Berlin Museum of Natural History