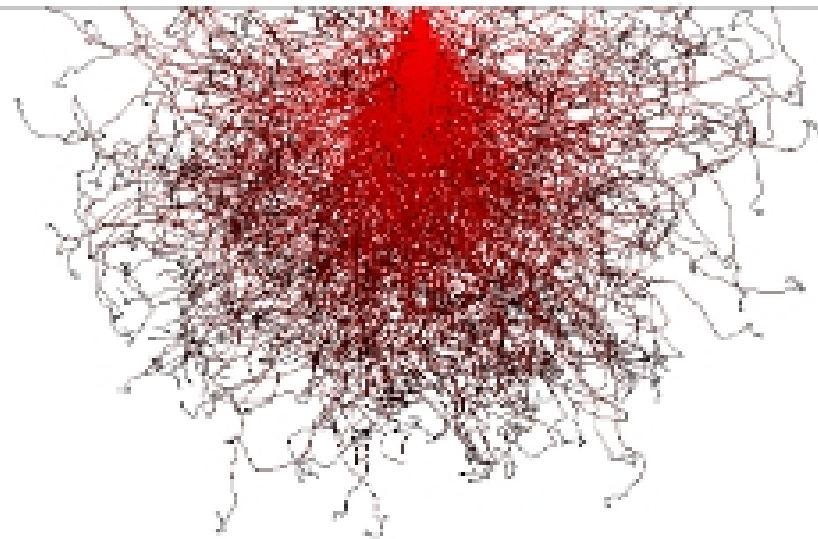




Electron probe microanalysis

Electron - Specimen



Interaction



What's the point?

Electrons from a source
interact with electrons in specimen
yielding a variety of photons and electrons
via elastic and inelastic scattering processes.
These are the “signals” that we use to make
images and measure to characterize the
composition of our specimens.



Overview

- Elastic and inelastic processes
- Characteristic and continuum X-rays
- K,L,M etc: families of X-rays
- Energy versus wavelength
- Moseley's relation
- Absorption or critical excitation energy
- Interaction volume and ranges
- Monte Carlo models
- Odds of X-ray production
- Distinction between X-rays and electrons