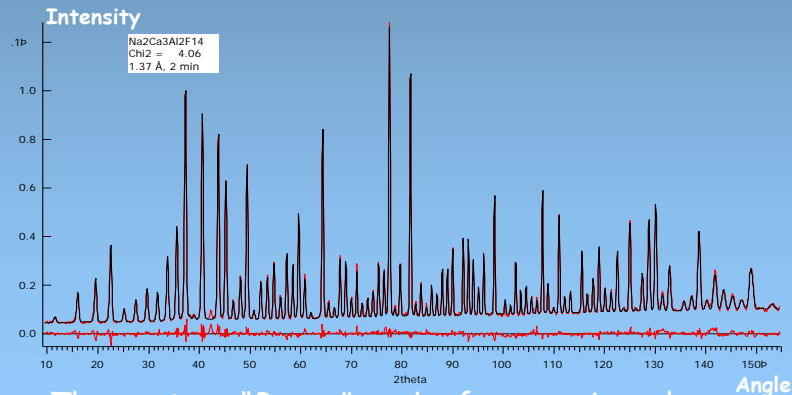


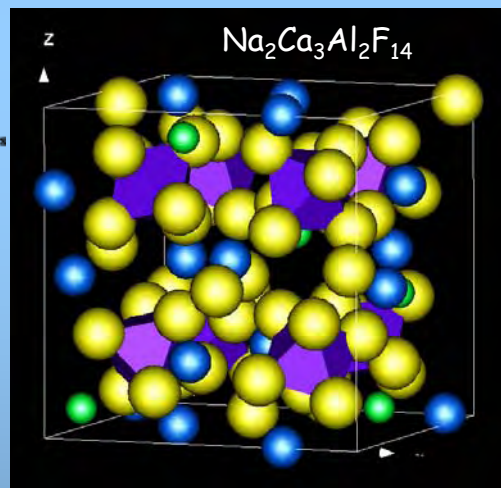
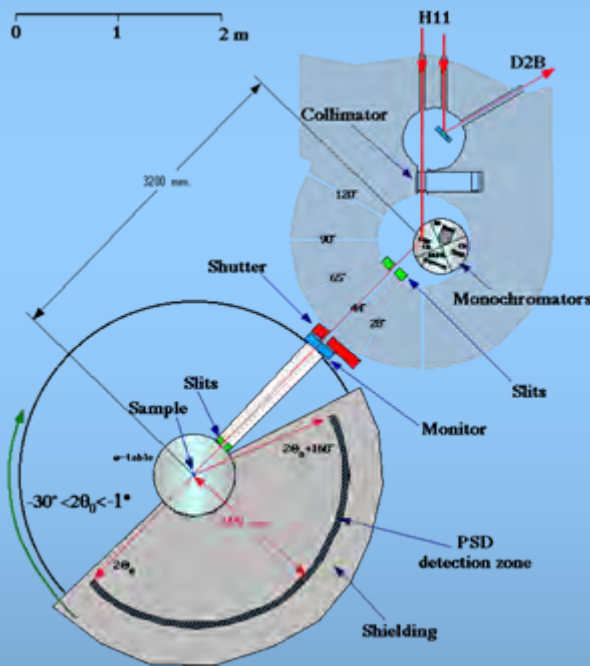
# D20-A High Flux Diffractometer



- Most inorganic materials are polycrystalline
- They consist of tiny crystals
- Examples - a magnet, a battery, a bone...
- The planes of atoms in these tiny crystals reflect neutrons at specific "Bragg" angles.



The neutron "Bragg" peaks from a mineral can be used to obtain its atomic structure



- A **Monochromator** selects a neutron wavelength
- These neutrons are selected from the **Sample**
- The Bragg peaks are collected by the **Detector**
- Their intensity depends on the scattering **Angle**
- Their intensity depends on charge-discharge **Time**
- The sample can be equivalent to an **AA-battery**
- The battery is **charged** in the neutron beam
- So we can see the **chemical changes** on charging
- Then we can hope to make **longer lasting batteries**

