

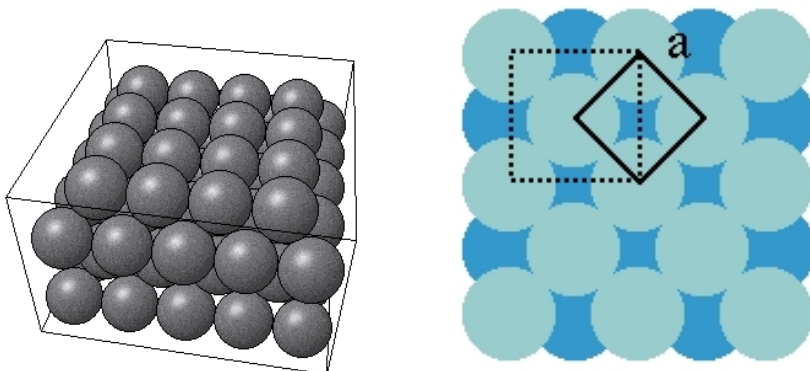
Chemistry H2A

Problem Set 3 Additional Problems:

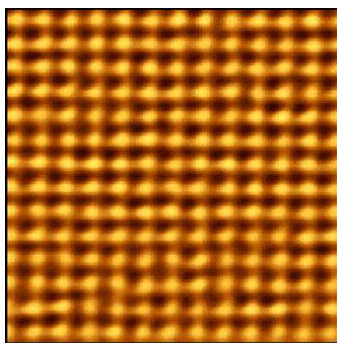
These two problems require a little bit of searching on the web.

a) The element Vanadium is a solid bcc metal and room temperature and pressure. Please find the lattice parameter for metallic Vanadium and calculate its atomic radius from that value.

b) Scanning Tunnelling Microscopy (STM) is a modern measurement that can be used to determine atomic distances on surfaces. An FCC crystal can be cut various ways to create surfaces of different patterns. For example, here's the (100) surface:



And here's the Cu(100) surface in an STM experiment.



Please find out what the (111) surface looks like for an FCC crystal. Can you find an exemplary STM image?