Flying over Atoms

User Directions

Before You Begin

Before using Flying over Atoms you must have installed a WWW browser, QuickTime, and QuickTime Plug-in 1.1 or later for your WWW browser. See the Read Me First! file (Mac OS) or README.WRI (Windows) for details.

Understanding What You Are About To See

In viewing STM images it is very important to know how the images were created in order to understand what they represent. It is not as simple as "seeing atoms". You are strongly urged to read the Introduction, FOAIntro.HTM (in the HTML folder), and the Introduction to Scanning Tunneling Microscopy (STM), IntroSTM.HTM (in the IntroSTM folder inside the HTML folder), before you look at the surfaces. Instructors should become familiar with the information in these files, and introduce the information to students before asking them to explore the surfaces on their own. Not every detail of every surface is explained, but the information should allow you to distinguish important similarities and differences in the surfaces.

Getting Started

These instructions assume that you are familiar with the operation of a World Wide Web browser such as Netscape Navigator or Microsoft Internet Explorer. If not, you may wish to consult the documentation accompanying your browser software before you continue.

To start Flying over Atoms, open the **FOAHOME.HTM** file by double-clicking on its icon from your desktop. Alternatively, start your WWW browser application as you normally would. From the File menu, select **Open File…** or **Open Page…**. In the dialog that appears, navigate to the Flying over Atoms CD and select **FOAHOME.HTM.**

Using Flying over Atoms

Explore the Flying over Atoms CD by clicking items from the Flying over Atoms homepage, FOAHOME.HTM. Explore as you would any World Wide Web site by clicking links. For more information about Flying over Atoms you are strongly urged to read the Introduction, FOAIntro.HTM, and the Introduction to Scanning Tunneling Microscopy (STM), IntroSTM.HTM.

A good place to begin in examining the surfaces is comparing the Silver and Silicon surfaces. The information in Introduction to Scanning Tunneling Microscopy (STM), IntroSTM.HTM, should help you relate what you see to the differences in metals and nonmetals and their properties. Also investigate the differences in the Filled and Empty Silicon surfaces. You should be able to use the shapes on the surface to define the position of the atoms.

On the page for each surface, you can read a text description of the surface, see a still picture, and view one or more movies that explore a portion of the surface. If you have Vistapro, open the data files (*.DEM). For directions on using Vistapro to fly over atoms, see LESSON.PDF.