Shiny Surface, Shiny Contents

As the internet becomes more and more important as a tool for the acquisition of information, it is not too surprising that the number of web sites which offer textbooklike tutorials is steadily increasing. In some cases, the information is rather limited, in other cases, however, one is amazed about the wealth of information provided and the trouble somebody has taken to set up these pages. The web site of Roger Nix from Queen Mary, University of London, certainly belongs to the last category. In seven chapters, he describes basics of surface science:

- structure of metallic surfaces,
- adsorption of molecules on surfaces,
- the Langmuir isotherm,
- ultrahigh vacuum and effects of gas pressure,
- surface-analytical techniques (photoelectron and vibrational spectroscopy, temperature-programmed techniques)
- overlayer structures and surface diffraction (including low-energy electron diffraction),
- surface imaging and depth profiling (including scanning probe microscopy).

The tutorial is well written and especially well structured. Starting from basic concepts, modern techniques for the characterization of solid surfaces are discussed. It is carefully explained how surfaces differ from the bulk and how information about their structure and composition can be obtained. Although the content is kept at an introductory level, the information is solid and sound. It is obvious that the author knows the field well and has admirable didactic skills. A large number of helpful figures are provided to illustrate the contents (Figure 1). The fact that animations have not been included could be considered as a disadvantage (a handful of interactive features can be downloaded, though). On the other hand, this underpins the intention of the author to impart knowledge and not to impress with fancy multimedia features. Cross-links to other parts of the tutorial help to look up issues that are dealt with in other chapters. A number of links to other web sites are implemented, where the reader can obtain examples of current research or find further details. The links are apparently updated from time to time so that the user is correctly passed on in most cases. This may not be taken for granted as other sites show! Another particularly useful feature of the site is the incorporation of good exercises (the answers are provided on a click), which allows readers to apply the material presented and thus reach a deeper understanding (Figure 2).

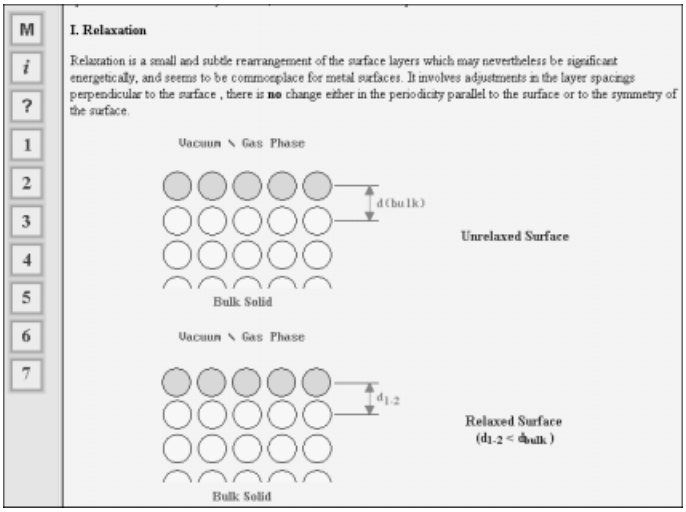

Figure 1. Explanations…

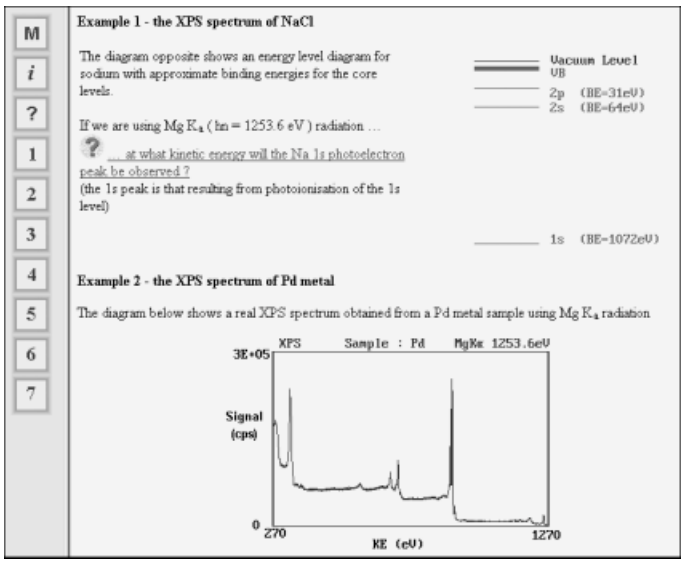

Figure 2. … and exercises: introductory-level surface science.

In summary, the site is well suited for students or scientists not familiar with the field in order to get a first basic idea about surface science and experimental techniques relevant to it. In this respect, it may even substitute a textbook. For more detailed information, however, a good textbook is still needed.

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