

approximation, cannot be used; multiple scattering occurs, influencing both the intensities and positions of the peaks. Various treatments of the multiple-scattering problem, ranging from extremely simple to quite complex, are described in several papers in this volume.

In addition, a large number of papers describe experimental results related to the structure of surfaces and the interaction of additional atoms and molecules with surfaces. Understanding of most of these problems is highly empirical at this time.

One of the least explored and yet most interesting problems in surface physics is the nature of the electronic states of a solid near a surface. A few papers present theoretical discussions of the problem, but since almost no experiments have been carried out that provide information about surface states other than the ground state it is difficult to assess the validity of the approximations made.

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