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دراسات الاثار التذبذبات في البلورات ذوات الواجه العشرين

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Abstract : The discovery of Aluminium alloys with icosahedra structures opened a new field of discussion in condensed matter theory. Earlier elemental boron is found in various modifications, -all of them with icosahedra symmetry containing twelve atoms. B12 icosahedrons also manifest itself in the borohydrides. The recent discovery of fullerenes and its various crystalline compounds have ignited enormous interest among theorists as well as experimentalists. The number of polyatomic system of icosahedra symmetry is increasing each day. In most of these cases, the ground or first excited electronic states are degenerate; and analysis of their properties demand a thorough investigation of the vibrational structures of icosahedra symmetries. The objectives of present work is to understand the icosahedra group completely. A detailed analysis of this group and the normal vibrational modes of the systems with these symmetries are presented here. The selection rules defined for the vibrational effect will help us to understand these systems better

Supervisor : د. خورشيد صديقي ، د. محمد الاحمدي
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