

crystal field

Crystal field theory is the theory which interprets the properties of *coordination* entities on the basis that the interaction of the *ligands* and the *central atom* is a strictly ionic or ion-dipole interaction resulting from electrostatic attractions between the central atom and the ligands. The ligands are regarded as point negative (or partially negative) charges surrounding a central atom; covalent bonding is completely neglected. The splitting or separation of energy levels of the five degenerate **d** orbitals in a transition metal, when the metal is surrounded by ligands arranged in a particular geometry with respect to the metal centre, is called the crystal field splitting. See also *ligand field*.

1997, 69, 1267