**Rydberg transition**

An electronic transition described approximately as promotion of an electron from a 'bonding' orbital to a *Rydberg orbital*. Spectral bands corresponding to Rydberg transitions approximately fit the Rydberg formula:

$$\sigma = I - R/(n - \Delta)^2$$

where $\sigma$ is the wavenumber, $I$ the ionization potential of the atom or molecular entity, $n$ a principal quantum number, $R$ the Rydberg constant, and $\Delta$ the quantum defect which differentiates between s, p, d, etc., orbitals. The notation used is, e.g. $\pi \rightarrow$ ns.

1996, *68*, 2272