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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:

$$\sigma = I - \frac{R}{(n - \Delta)^2}$$

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

Source:
PAC, 1996, *68*, 2223 *(Glossary of terms used in photochemistry (IUPAC Recommendations 1996))* on page 2272

