doi:10.1351/goldbook.D01654

Dexter (electron exchange) excitation transfer

Excitation transfer occurring as a result of an electron exchange mechanism. It requires an overlap of the wavefunctions of the energy donor and the energy acceptor. It is the dominant mechanism in triplet-triplet energy transfer. The transfer rate constant, k_{ET}, is given by:

$$k_{ET} \propto \frac{h}{2\pi} P^2 J \, e^{\frac{-2r}{L}}$$

where r is the distance between donor (D) and acceptor (A), L and P are constants not easily related to experimentally determinable quantities, and J is the spectral overlap integral. For this mechanism the spin conservation rules are obeyed.
See also: radiative energy transfer

Source:
PAC, 1996, *68*, 2223 *(Glossary of terms used in photochemistry (IUPAC Recommendations 1996))* on page 2235

