

separability assumption

This expression refers to the assumption, essential to conventional transition-state theory, that the energy of the system may be expressed as the sum of components associated with different degrees of freedom. In transition-state theory it is assumed that the energy of the motion of the system through the dividing surface of the potential-energy surface is separable into various components. In many practical calculations it is assumed that the energy of the system is separable into electronic, vibrational, rotational and translational energy.

Source:

PAC, 1996, 68, 149 (*A glossary of terms used in chemical kinetics, including reaction dynamics (IUPAC Recommendations 1996)*) on page 186