

attractive potential-energy surface

Also contains definition of: early-downhill surface

A potential-energy surface for a process $A + B \rightarrow C$ in which the initial descent of the system into the product valley is associated with a substantial decrease in the $A-B$ distance and with little separation between the products $A-B$ and C . In terms of a potential-energy profile, the energy barrier occurs in the early stage of the reaction path. Attractive surfaces are also called early-downhill surfaces, and the barrier in such a surface is called a Type-I barrier.

Source:

PAC, 1996, 68, 149 (*A glossary of terms used in chemical kinetics, including reaction dynamics (IUPAC Recommendations 1996)*) on page 153