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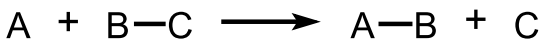
light-atom anomaly

A dynamical effect that arises for a process



when the species A is light (e.g. a hydrogen atom) compared to B and C . The vibrational excitation of the product A–B is low, since the light atom A approaches to within the bonding distance of BC before the C atom retreats. The energy of reaction is therefore released as repulsion between A–B and C , with the result that there is translational excitation of the products.

Source:
PAC, 1996, *68*, 149 *(A glossary of terms used in chemical kinetics, including reaction dynamics (IUPAC Recommendations 1996))* on page 171

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