

On the Interpretation of Red-Shifts: A Quantitative Comparison of Red-Shift Mechanisms

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Abstract

This paper gives a compilation of physical mechanisms which have been proposed to explain the spectral red-shift of distant astronomical objects. Over sixty selected mechanisms are listed for the purpose of quantitative comparisons. Some of these mechanisms may not completely account for all astrophysical observations but are relevant to particular situations such as the solar limb red-shift, the red-shift of quasars or the cosmological red-shift. However, this paper focuses mainly on the 59 mechanisms giving a quantitative description of the cosmological redshift-distance relationship. A description is given for each mechanism including its properties, limits of applicability, functional relationships and comments.

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