Upper limit for the dust-enshrouded star formation rate in the Universe

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The measurement of gamma-ray absorption can be used to probe star formation and cosmological parameters. An upper limit on the dust-enshrouded, global star formation rate (SFR) is derived for two different cosmologies. We find a value of 0.5 $M_{\odot}yr^{-1}Mpc^{-3}$ (SCDM) and 0.4 $M_{\odot}yr^{-1}Mpc^{-3}$ (λCDM). This method can be used in the future to determine the total SFR, if more gamma-sources at higher redshifts will be detected in the near future by the 2nd generation of IACTs (MAGIC, HESS, Cangaroo and Veritas).