Mesure de H_0

Détermination du potentiel de Fermat de la lentille RXJ1131-1231

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Résumé

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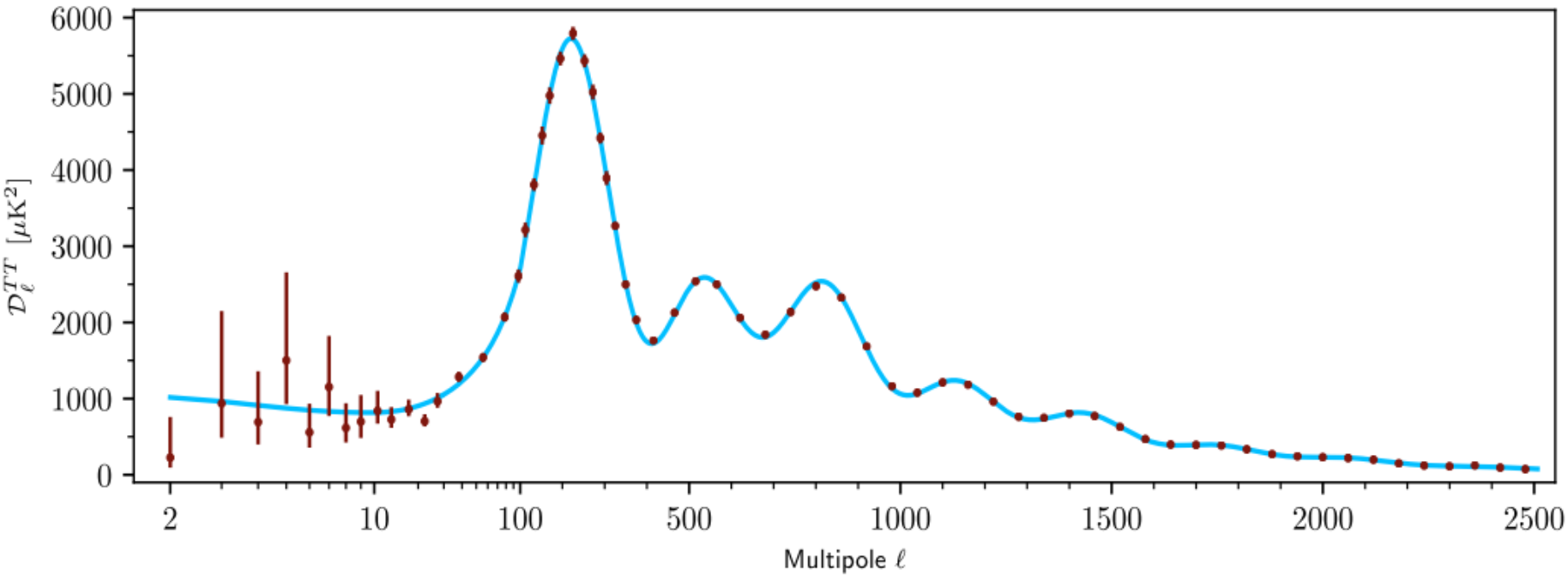
Mesures

Planck (2018) + ΛCDM

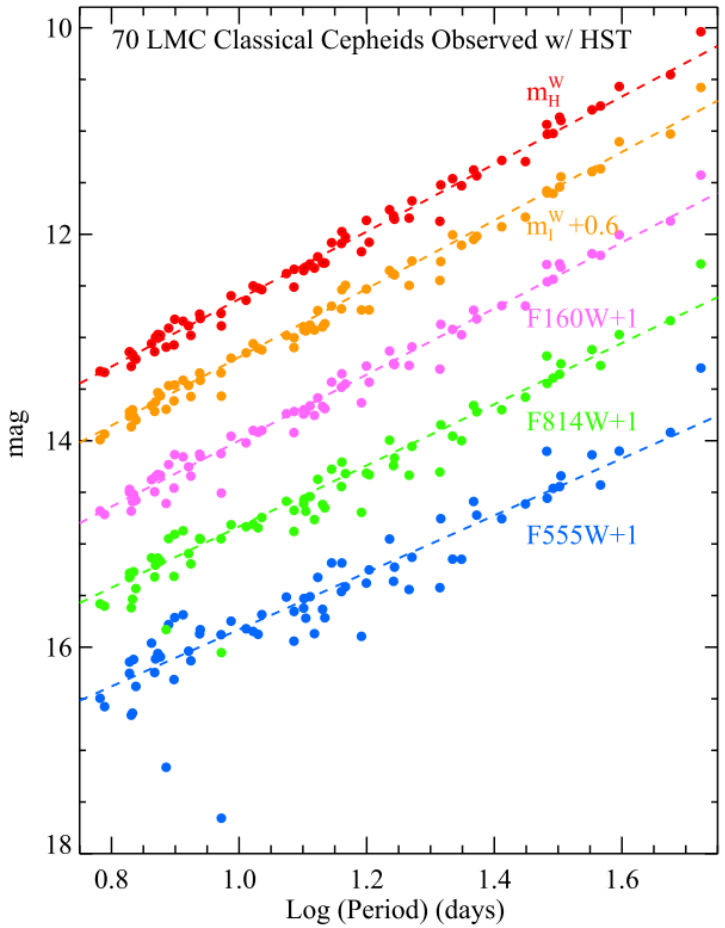


Mesure indirecte: $\boxed{100h = 67.36 \pm 0.54\ (0.8\%)}$ à $z \gtrsim 1100$ [1]

[1] Planck Collaboration [2018]

Mesures

Sh0es (Riess *et al.*)

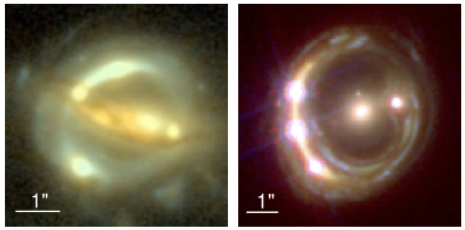


Mesure directe: $\boxed{100h = 74.03 \pm 1.42\ (1.9\%)}$ à $z \ll 1$ [2]

[2] Riess et al. [2019]

Mesures

H0LiCOW (Suyu *et al.*)



(a) B1608+656 (b) RXJ1131−1231

(c) HE 0435−1223 (d) SDSS 1206+4332

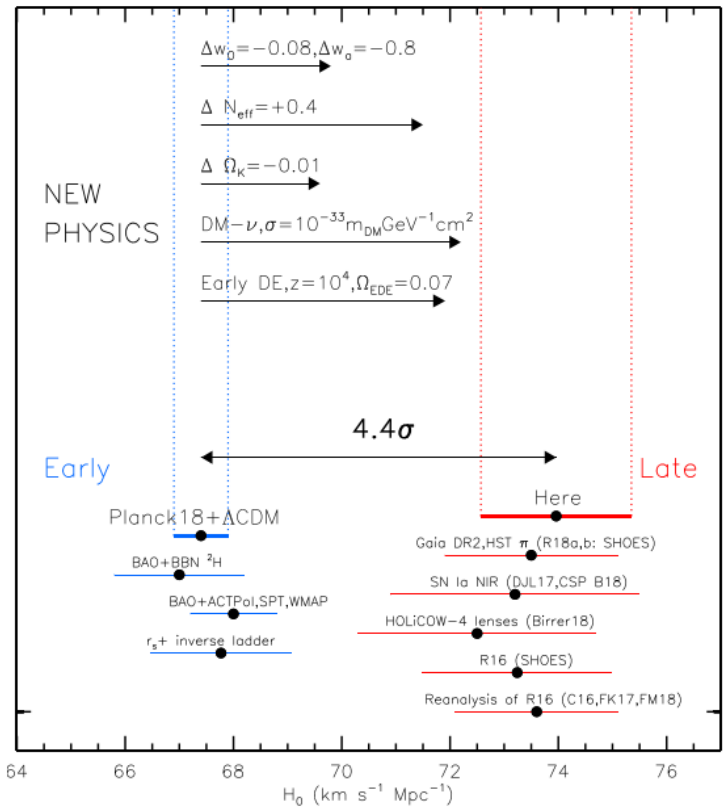
(e) WFI2033−4723 (f) PG 1115+080

Mesure semi-direct: $\boxed{100h = 73.3^{+1.7}_{-1.8}\ (2.4\%)}$ avec $z_\ell \sim 0.5$ et $z_s \lesssim 2$. [3]

[3] Wong et al. [2020]

Résumé

Tension



[4] Les mesures locales sont en conflit avec H_0 dérivée du CMB, des oscillations acoustiques baryoniques (BAO) et de la nucléosynthèse di Big Bang (BBN)

[4] Riess et al. [2019]

Référence I

Planck Collaboration. Planck 2018 results. I. Overview and the cosmological legacy of Planck. 2018. URL http://www.esa.int/Planckhttp://arxiv.org/abs/1807.06205.

A. G. Riess, S. Casertano, W. Yuan, L. M. Macri, and D. Scolnic. Large Magellanic Cloud Cepheid Standards Provide a 1the Determination of the Hubble Constant and Stronger Evidence for Physics beyond ΛCDM. *The Astrophysical Journal*, 876:85, 2019. doi: 10.3847/1538-4357/ab1422. URL https://doi.org/10.3847/1538-4357/ab1422.

Référence II

K. C. Wong, S. H. Suyu, G. C. Chen, C. E. Rusu, M. Millon, D. Sluse, V. Bonvin, C. D. Fassnacht, S. Taubenberger, M. W. Auger, S. Birrer, J. H. Chan, F. Courbin, S. Hilbert, O. Tihhonova, T. Treu, A.-a. Agnello, X. Ding, I. Jee, E. Komatsu, A. J. Shajib, A. Sonnenfeld, R. D. Blandford, L. V. Koopmans, P. J. Marshall, and G. Meylan. H0LiCOW-XIII. A 2.4 per cent measurement of H0from lensed quasars: 5.3σ tension between early-and late-Universe probes. *Monthly Notices of the Royal Astronomical Society*, 498(1):1420–1439, 2020. ISSN 13652966. doi: 10.1093/mnras/stz3094.