**Erratum: Local resolution of the Hubble tension:
The impact of screened fifth forces on the cosmic distance ladder
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There was an error in the fitting function that we used for TRGB distance as a function of fifth force strength [Eq. (16)]. It should read

$$\frac{D_{\text{true}}}{D_{\text{GR}}} = 1.021 \left(1 - 0.04663 \left(1 + \frac{\Delta G}{G_N} \right)^{8.389} \right)^{1/2}. \quad (1)$$

This implies a stronger effect of the fifth force on TRGB, and hence tighter constraints on $\Delta G/G_N$ from comparing Cepheid and TRGB distances (Sec. IV B). When the new limiting $\Delta G/G_N$ values are used to determine the effect of our models on H_0 (Sec. IV C), the result is a smaller reduction in H_0 from the fiducial SH0ES value. This increases the remaining discrepancies with *Planck* by $\sim 0.7\sigma$ for models in which Cepheid cores are screened, and $\sim 0.2\sigma$ when they are not. The qualitative conclusions are unchanged.

FIG. 1. Upper limit on $\Delta G/G_N$ from the comparison of Cepheid and TRGB distance estimates to 51 galaxies from NED-D, as a function of the fraction of unscreened galaxies. We show separately the cases of Cepheids entirely unscreened (*left*) and only Cepheids' envelopes unscreened (*right*). Dashed lines indicate typical unscreened fractions as shown in Table I.

FIG. 2. Reconstructed $\hat{H}_0$ values and their uncertainties for the two main screening scenarios that we consider. The points in the left panel correspond to Cepheids entirely unscreened, and those in the right panel to only Cepheid envelopes unscreened. In all cases, we use the 5σ maximum values for $\Delta G/G_N$ from the Cepheid vs TRGB distance test (Sec. IV B and Fig. 1), which span the range 0.03–0.06 for the left panel and 0.13–0.22 for the right (Table I). The red and green vertical lines and shaded regions show the best-fit H_0 value and its 1σ uncertainty, from *Planck* and R19, respectively. For the environmental proxies Φ , a , and K , we show results for a 5 Mpc aperture, but indicate also the result of using a 0.5 or 50 Mpc aperture with black crosses and stars, respectively (the error bars are similar). Note that the ρ_{DM} model must unscreen Cepheid cores, so it appears only in the left panel, while the converse is true for Φ , assuming thin-shell screening.

FIG. 3. Distance ladder vs CMB H_0 discrepancy σ_{H_0} as a function of $\Delta G/G_N$ for four screening models: ρ_{DM} , $\Phi_{0.5}$, and M_{vir} both with and without Cepheid luminosity modification. The lines are cubic fits to the corresponding points. We cut the ρ_{DM} and M_{vir} models where they are inconsistent with all the tests of Sec. IV B, and dash the lines where they enter 5σ tension with the Cepheid vs TRGB distance test.

TABLE I. The effect of various screening proxies on the value of H_0 inferred from the local distance ladder, assuming a $\Delta G/G_N$ at the 5σ limit of that allowed by the Cepheid-TRGB distance test, separately for each proxy. The first row indicates the R19 result. In the third column, each “1” indicates unscreened (feels fifth force) and each “0” indicates screened for the Cepheid envelope/Cepheid core/Calibration SNe/Cosmological SNe. As described in the text, the threshold value for screening under a given proxy is given by the MW’s value for that proxy. σ_{H_0} is the discrepancy of the resulting H_0 constraint with the CMB. “E. U.” denotes the “early unscreening” model (Appendix B) in which cosmological SNe are fully unscreened and calibration SNe fully screened, without any effect on Cepheids. In this case, we consider $\Delta G/G_N = 0.05$. Our best models achieve $\sim 2\sigma$ consistency with *Planck*.

Proxy	Unscreened fractions	Screening properties	$\Delta G/G_N$	$\hat{H}_0/\text{km s}^{-1} \text{Mpc}^{-1}$	$\Delta \hat{H}_0/\text{km s}^{-1} \text{Mpc}^{-1}$	σ_{H_0}
...	...	0/0/0/0	0	74.0	1.4	4.4
$\Phi_{0.5}$	0.85	1/0/0/0	0.09	72.4	1.4	3.3
Φ_5	0.08	1/0/0/0	0.22	73.4	1.5	3.9
Φ_{50}	0.30	1/0/0/0	0.14	72.8	1.5	3.5
$a_{0.5}$	0.31	1/0/0/0	0.14	72.8	1.5	3.5
		1/1/0/0	0.04	71.9	1.6	2.6
a_5	0.31	1/0/0/0	0.14	73.1	1.5	3.6
		1/1/0/0	0.04	72.2	1.8	2.6
a_{50}	0.35	1/0/0/0	0.13	72.6	1.4	3.5
		1/1/0/0	0.04	71.4	1.6	2.5
$K_{0.5}$	0.39	1/0/0/0	0.13	72.8	1.4	3.6
		1/1/0/0	0.03	71.4	1.5	2.5
K_5	0.30	1/0/0/0	0.14	72.6	1.4	3.4
		1/1/0/0	0.04	71.8	1.5	2.7
K_{50}	0.26	1/0/0/0	0.14	72.9	1.5	3.6
		1/1/0/0	0.04	71.9	1.6	2.7
L_{gal}	0.12	1/0/0/0	0.19	73.5	1.4	4.0
		1/1/0/0	0.06	72.0	1.4	3.1
W_{20}	0.20	1/0/0/0	0.16	73.5	1.5	3.8
		1/1/0/0	0.05	72.9	1.9	2.8
M_{vir}	0.37	1/0/0/0	0.13	72.9	1.5	3.5
		1/1/0/0	0.04	71.5	1.8	2.2
ρ_{DM}	0.45	1/1/0/0	0.03	71.8	1.5	2.8
		1/1/1/0	0.03	72.4	1.5	3.3
E. U.	1	0/0/0/1	0.05	71.5	1.4	2.8

The modified versions of Figs. 5–7 (here Figs. 1–3) and Table IV (here Table I) are shown below. These include the correction from a previous Erratum [Phys. Rev. D **101**, 069904 (2020)].