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## Hubble distancing: Focusing on distance measurements in cosmology

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The Hubble-Lemaitre tension is currently one of the most important questions in cosmology. Most of the focus so far has been on reconciling the Hubble constant value inferred from detailed cosmic microwave background measurement with that from the local distance ladder. This emphasis on one number – namely  $H_0$  – misses the fact that the tension fundamentally arises from disagreements of distance measurements. To be successful, a proposed cosmological model must accurately fit these distances rather than simply infer a given value of  $H_0$ . Using the newly developed likelihood package ‘distanceladder’, which integrates the local distance ladder into MontePython, we show that focusing on  $H_0$  at the expense of distances can lead to the spurious detection of new physics in models which change late-time cosmology. As such, we encourage the observational cosmology community to make their actual distance measurements broadly available to model builders instead of simply quoting their derived Hubble constant values.

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