Investigating spatial curvature by adding Hubble Parameter datasets[1] FRANCIS CAVANNA, JACOB MOLDENHAUER, LIAM O'TOOLE, University of Dallas — Spatial curvature, or Ω_k values on a cosmological scale strongly influence whether General Relativity and the cosmological constant fits the observational data on a cosmological scale. Extreme values of spatial curvature affect certain parameters in General Relativity, and therefore result in exclusion of General Relativity at a high confidence rate. Conversely, if cosmological spatial curvature is flat, we find the observational data fits General Relativity. Previous results with WMAP data indicate that including Hubble parameter datasets in cosmomc simulations constrain Ω_k around 0.0 with $25 - 40\%$ improvement compared to runs without Hubble parameter data. We use a monte-carlo simulation and 2015 Planck data to determine if including Hubble parameter data produces significantly greater constraint on Ω_k than runs without Hubble parameter data.

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