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Current data are consistent with flat spatial hypersurfaces in the LCDM but favor more lensing than the model predicts

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We study the performance of three pairs of tilted ΛCDM cosmological models, two pairs allowing for non-flat spatial hypersurfaces with CMB temperature and polarization power spectrum data (P18) from Planck, P18 lensing (lensing), and non-CMB data (non-CMB). For the six models, we measure cosmological parameters and study whether or not pairs of the data sets are mutually consistent in these models. Half of these models allow the lensing consistency parameter AL to be an additional free parameter, while the other three have AL=1. In the tilted non-flat models with AL=1 we find differences between P18 data and non-CMB data cosmological parameter constraints. While both P18 data and non-CMB data separately favor a closed geometry when P18+non-CMB data are jointly analyzed the evidence in favor of non-flat hypersurfaces subsides. Differences between P18 data and non-CMB data cosmological constraints subside when AL is allowed to vary. From the most restrictive P18+lensing+non-CMB data combination we get almost model- independent constraints and find that the AL>1 option is preferred over the Ωk<0 one, with the AL parameter, for all models, being larger than unity by ~ 2.5σ. According to the deviance information criterion, in the P18+lensing+non-CMB analysis, the varying AL option is on the verge of being strongly favored over the AL=1 one, which could indicate a problem for the standard tilted flat ΛCDM model

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