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# Forecast for growth-rate measurement using peculiar velocities from LSST type Ia supernovae

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Type Ia supernovae (SNe Ia) are well-known distance indicators. Through the distance measured from SNe Ia, it is possible to recover their host galaxy's peculiar velocities (PVs). The PV field measured by SNe Ia enables us to constrain the growth rate of cosmic structure and, in turn, test General Relativity and different dark energy models. Using a realistic simulation of SNe light curves, as expected from the LSST survey, we have analyzed the bias due to selection effects and contamination from core-collapse SNe. Utilizing the Maximum Likelihood method, we recovered the growth rate constraints from LSST SN Ia PVs. We produced forecasts for LSST depending on the survey observing time. We find that LSST can constrain the growth rate with 10% precision in the redshift range  $0.02 < z < 0.14$ .

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