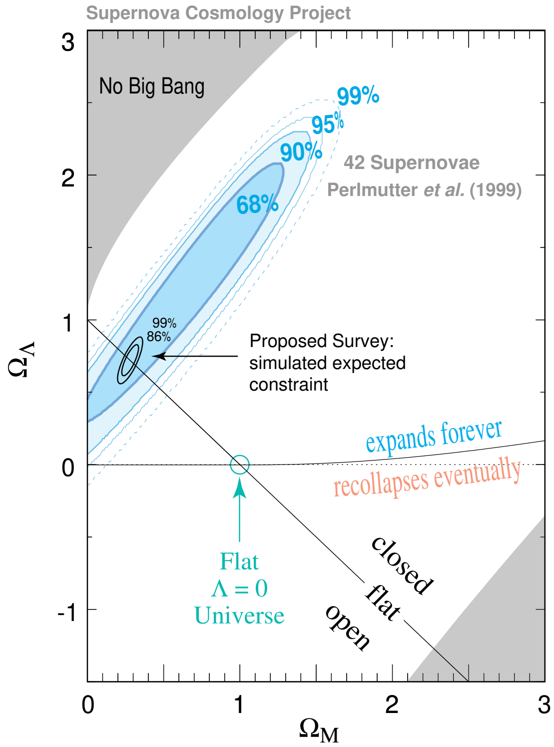

Figure 1: Confidence regions in the $(\Omega_M - \Omega_\Lambda)$ plane from the 42 distant SNe Ia in Perlmutter et al. 1999, overlaid with simulated contours illustrating the improvement in the determination of these parameters that will be possible on the timescale of the CFHT Legacy survey. The simulated 2-σ, 3-σ (1D) contours (confidence levels as indicated) are based on three advances over the current results: 1) the full 5-year dataset of the proposed CFHT Legacy survey, 2) a dataset of 200 well-measured SNe Ia from, for example, the Nearby Supernova Factory, and 3) a gaussian prior on $\sigma(\Omega_M) = 0.03$ (centered in the simulation on $\Omega_M = 0.28$) reflecting the improvement anticipated from large scale structure and CMB measurements.

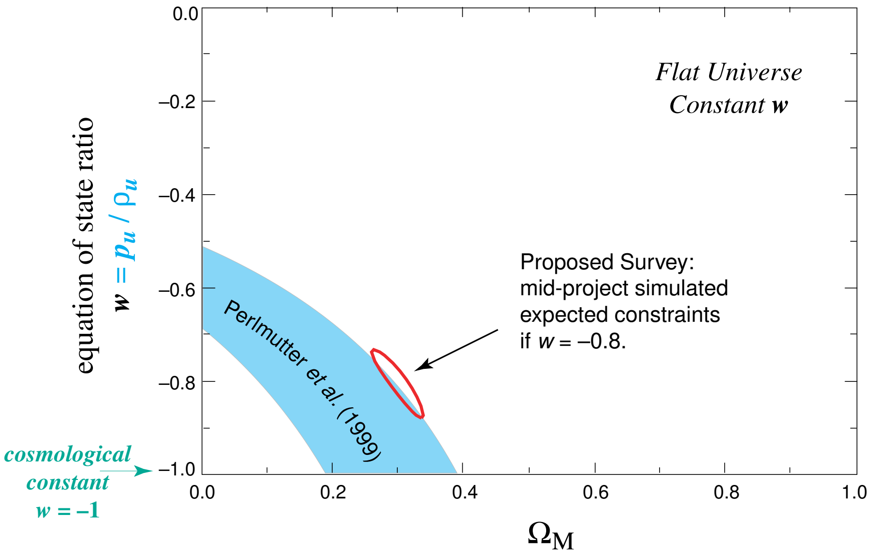

Figure 2: Confidence region in the $(\langle w \rangle - \Omega_M)$ plane, assuming a flat universe, from the 42 distant SNe Ia in Perlmutter et al. 1999, overlaid with a simulated projected 1-σ contour illustrating anticipated improvement. In this case, the simulation was based on only a mid-project CFHT Legacy Survey dataset (300 SNe), along with the same assumptions as in Fig. 2 for the nearby SNe and the prior on Ω_M. The simulation was done assuming $w = -0.8$ and demonstrates the ability to test whether a cosmological constant fits the data or if some other model of dark energy is required.