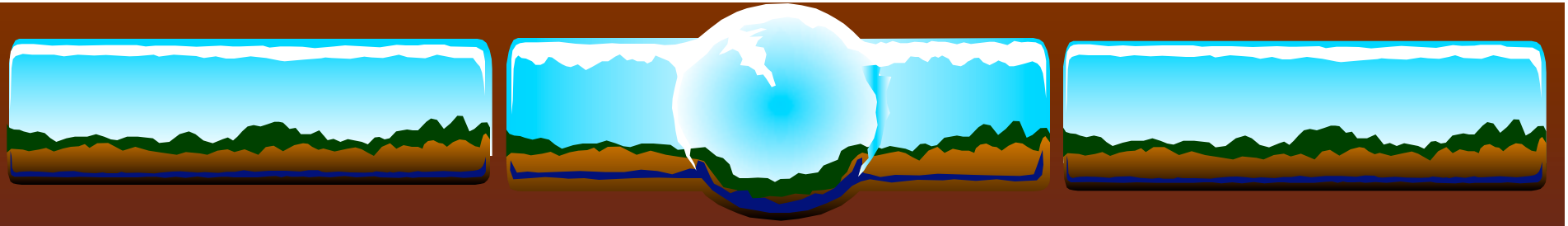

Measurements of Ω and Λ From 42 High-Redshift Supernovae

S. Perlmutter et al.


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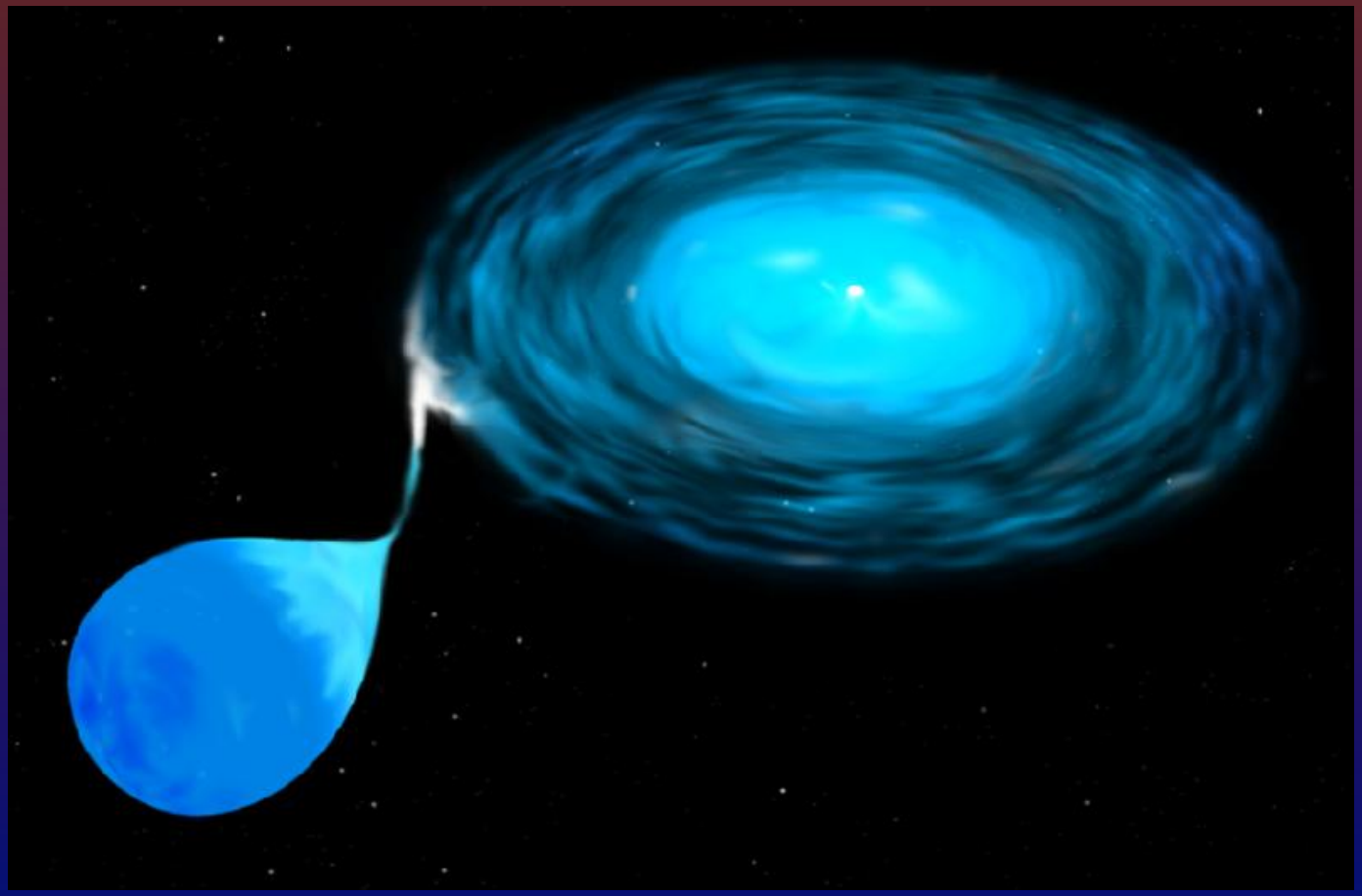
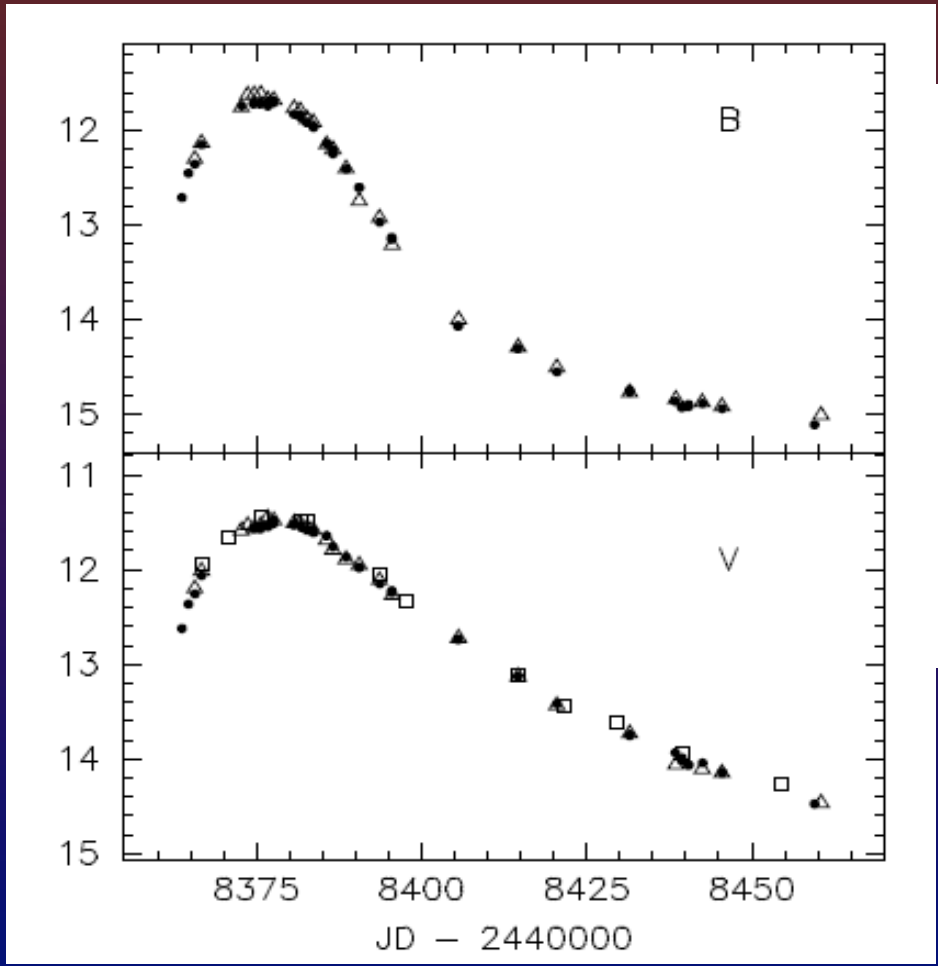
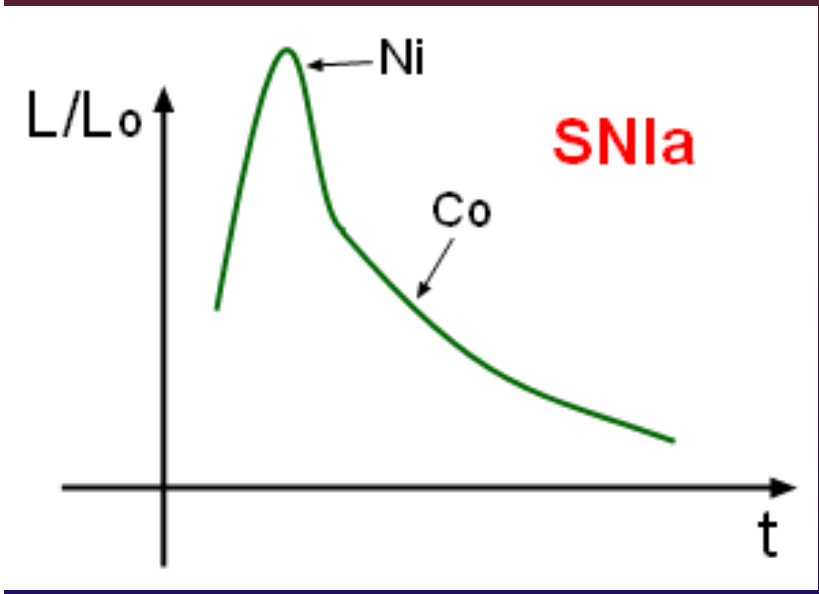
Demise of a Very hungry White Dwarf



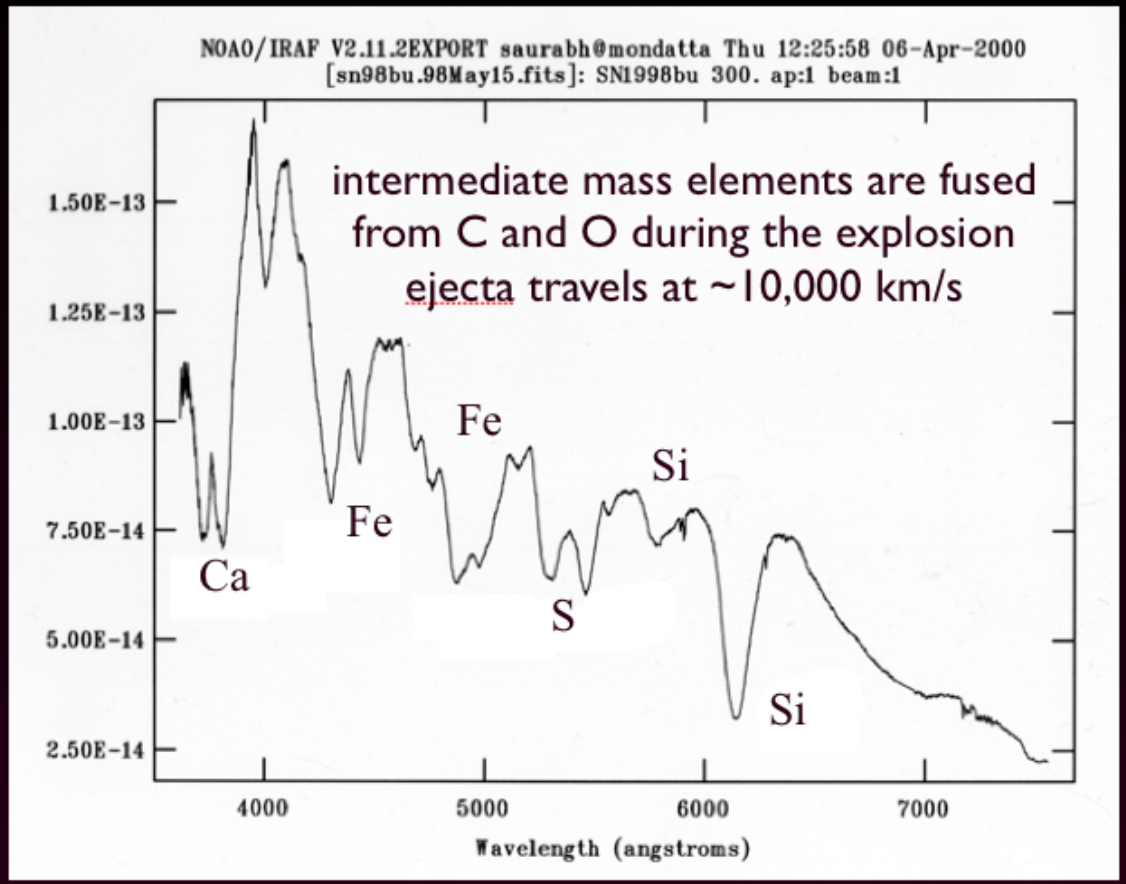
Supernova Light-Curve (Phillips et. al. 1992)



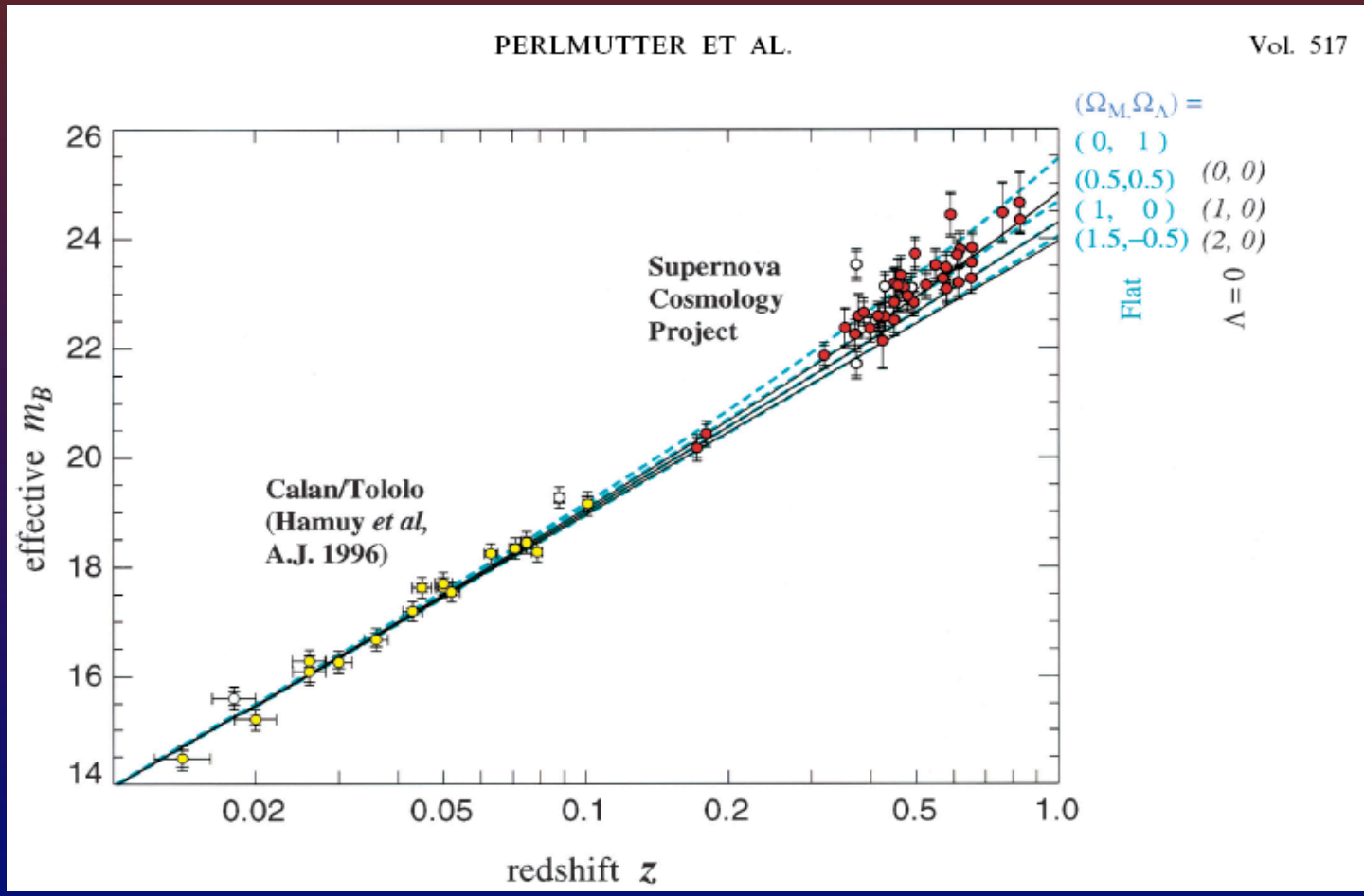


Spectrum of Ia Supernovae

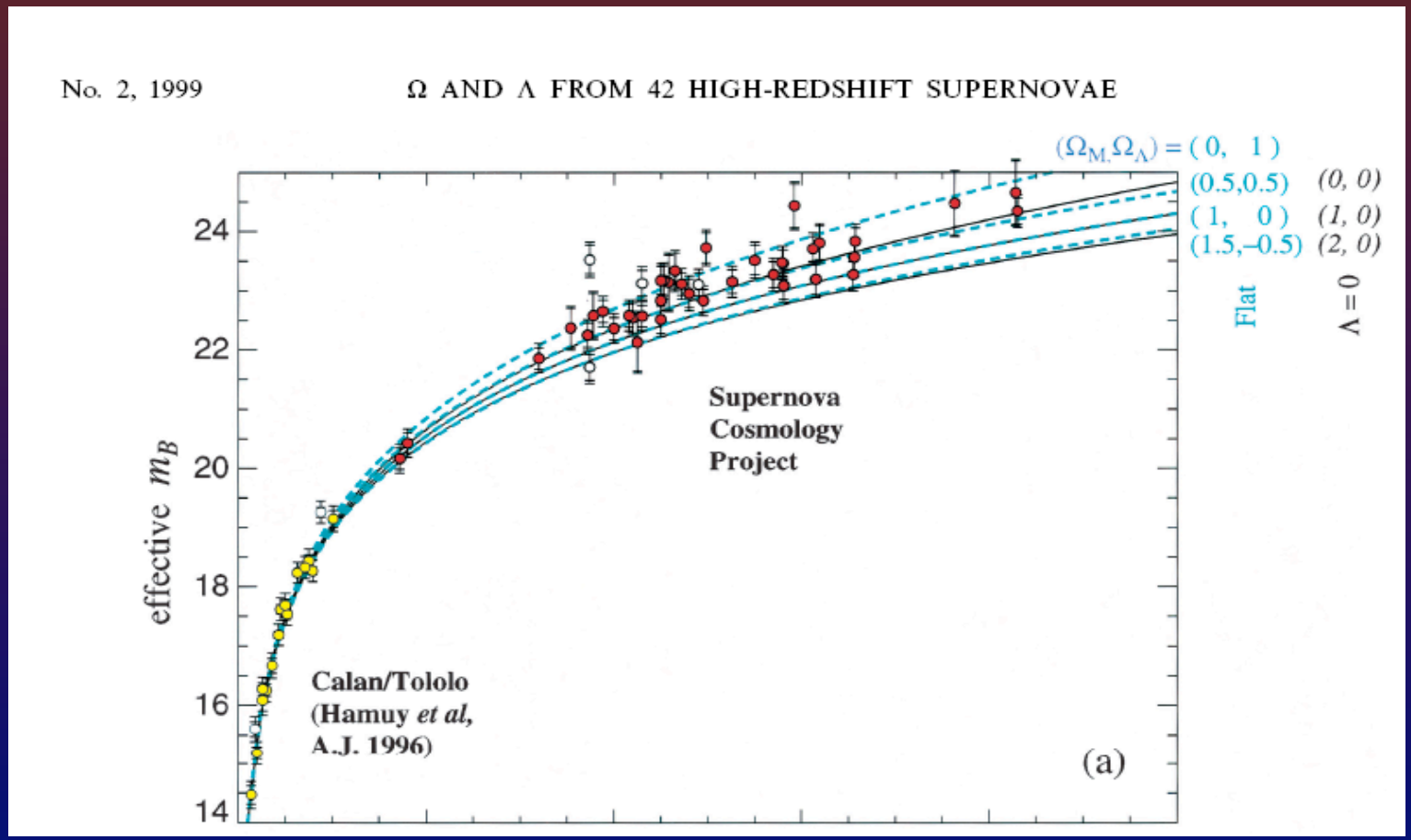
SN 1998bu maximum light spectrum



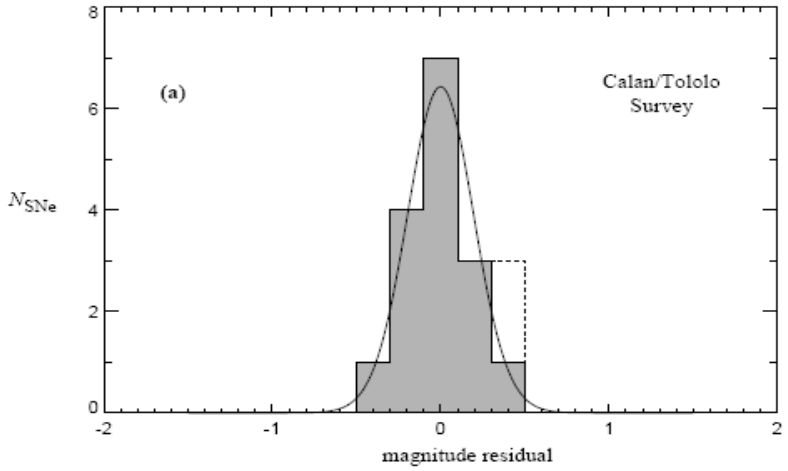
Hubble Diagram For the Ia Supernovae Log Plot

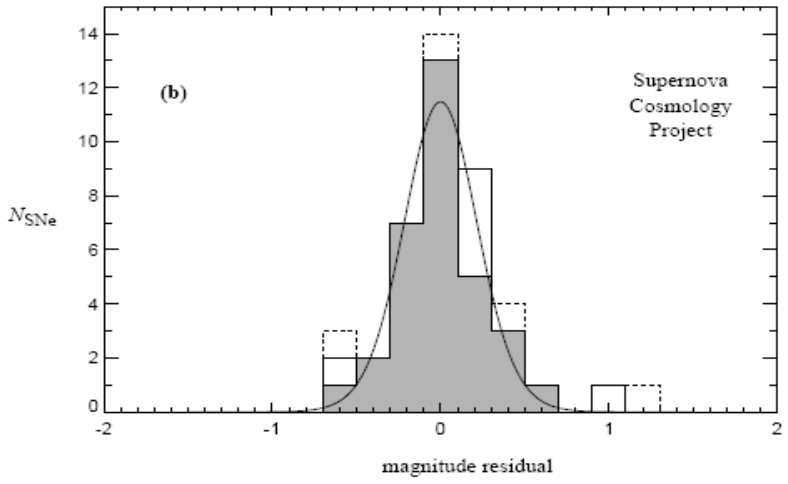


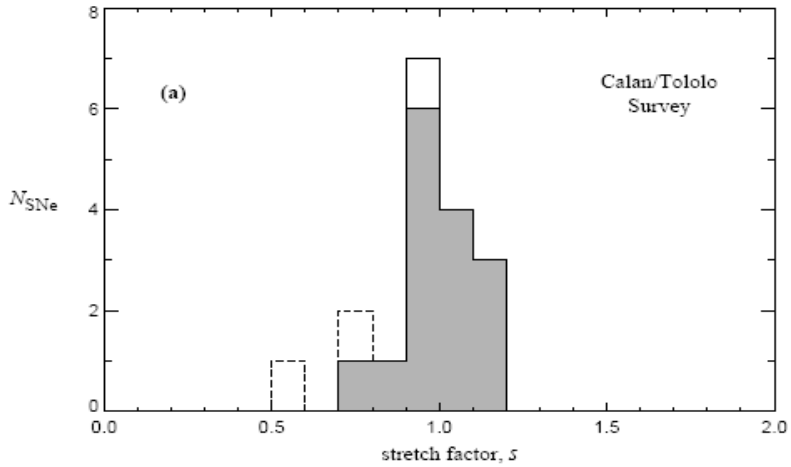
Linear Hubble Diagram For the Ia Supernovae

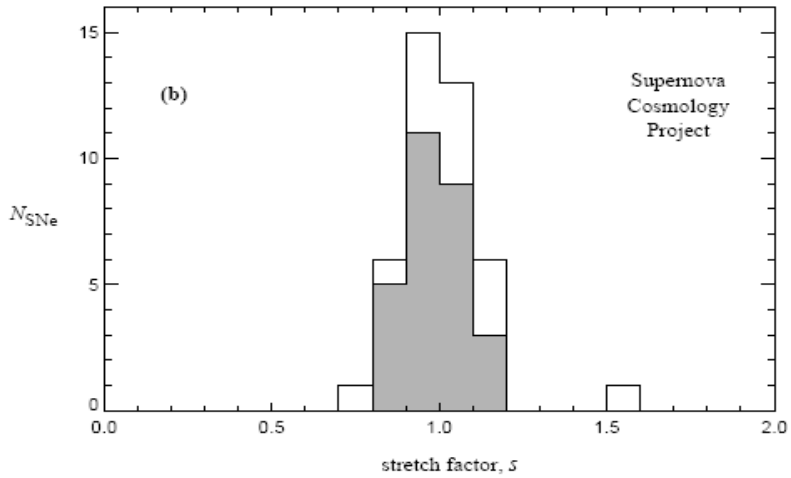


Checking Uncertainties

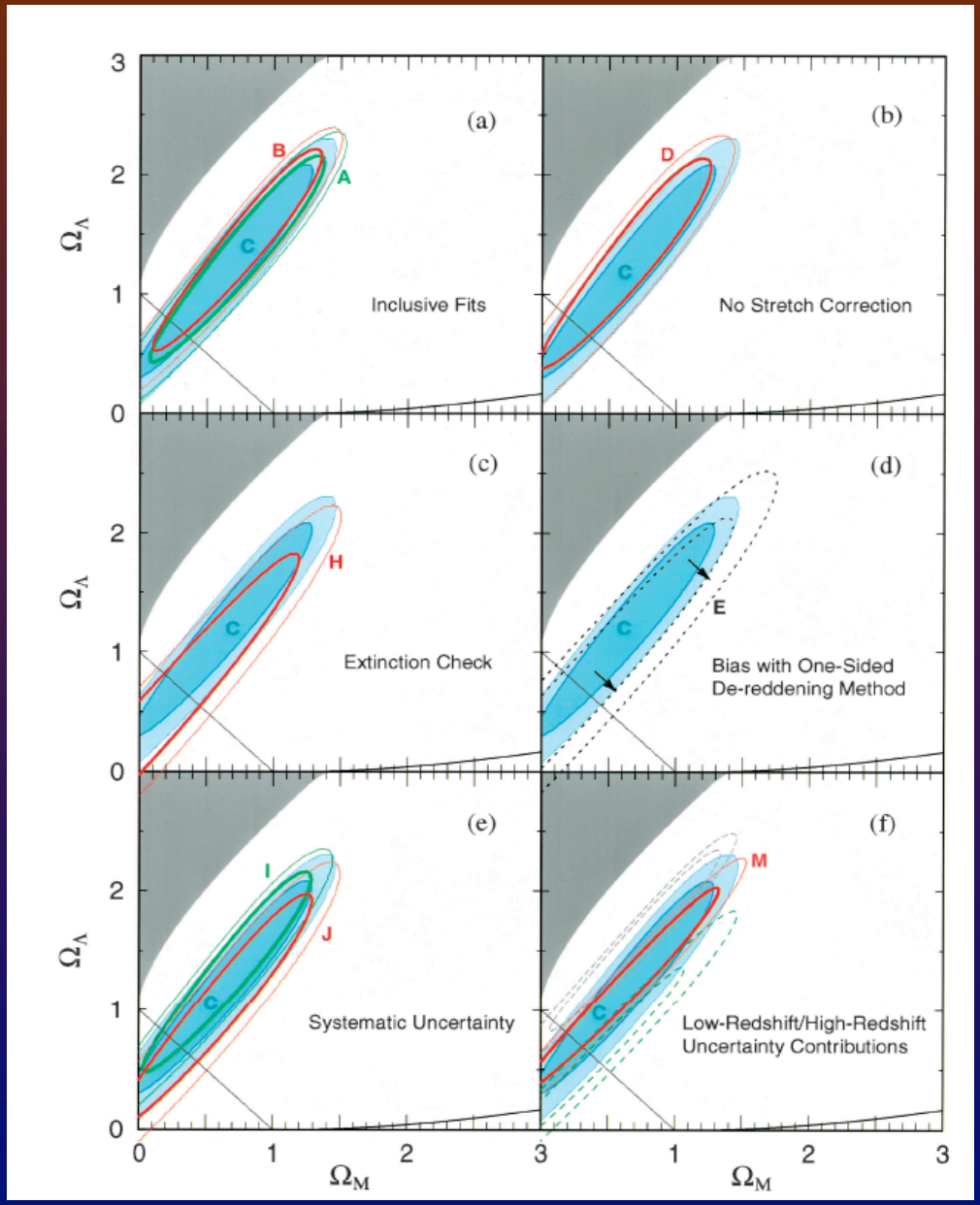




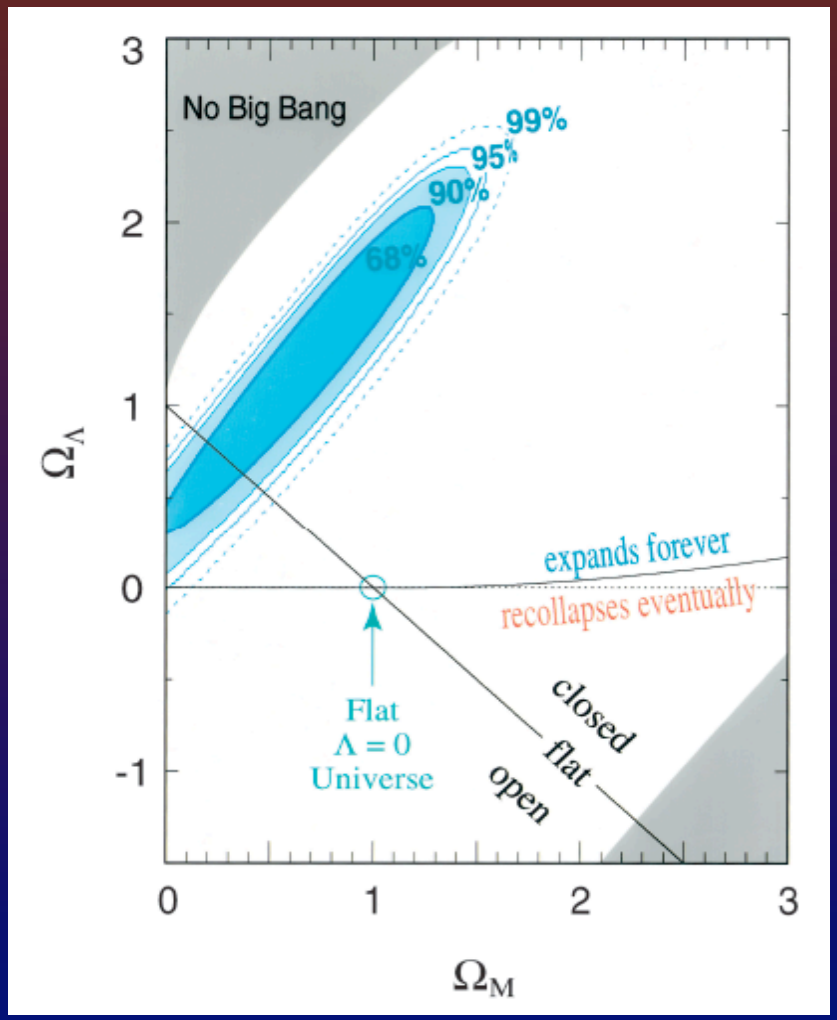




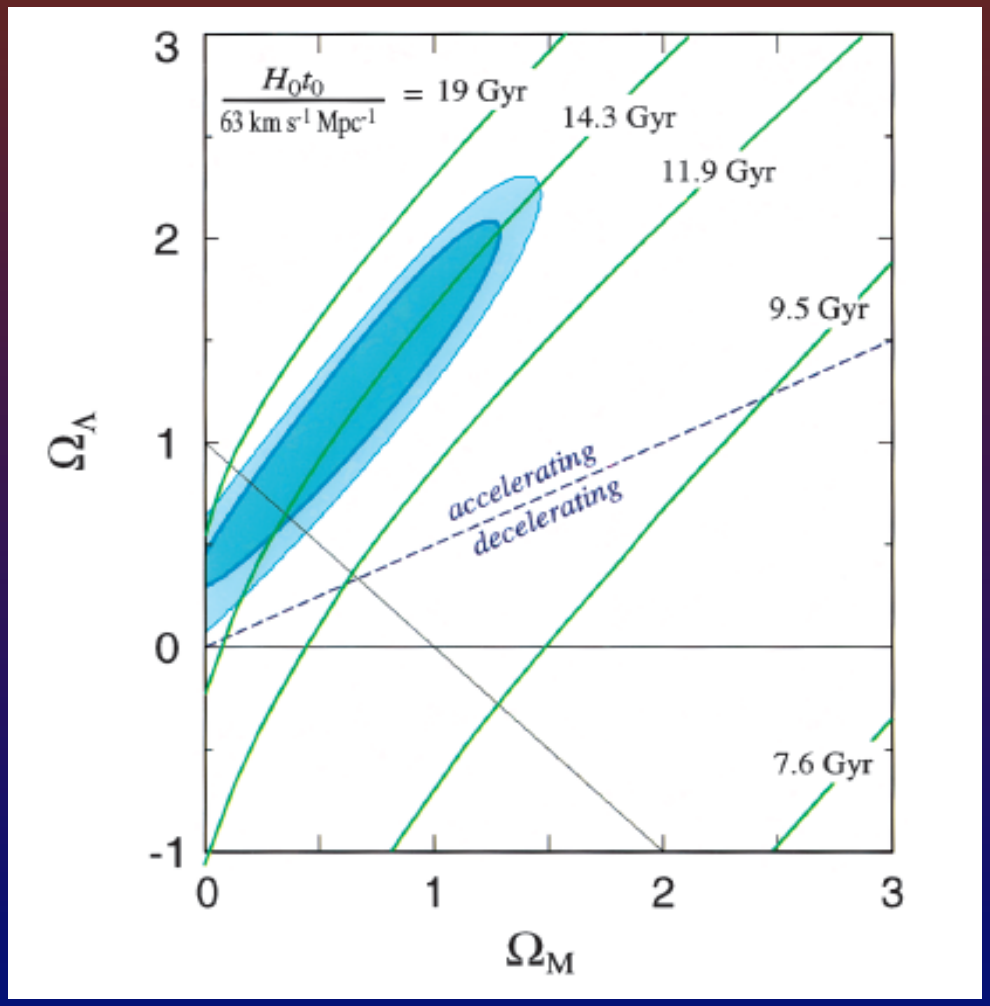
Best Fit for $\Omega_M - \Omega_\Lambda$



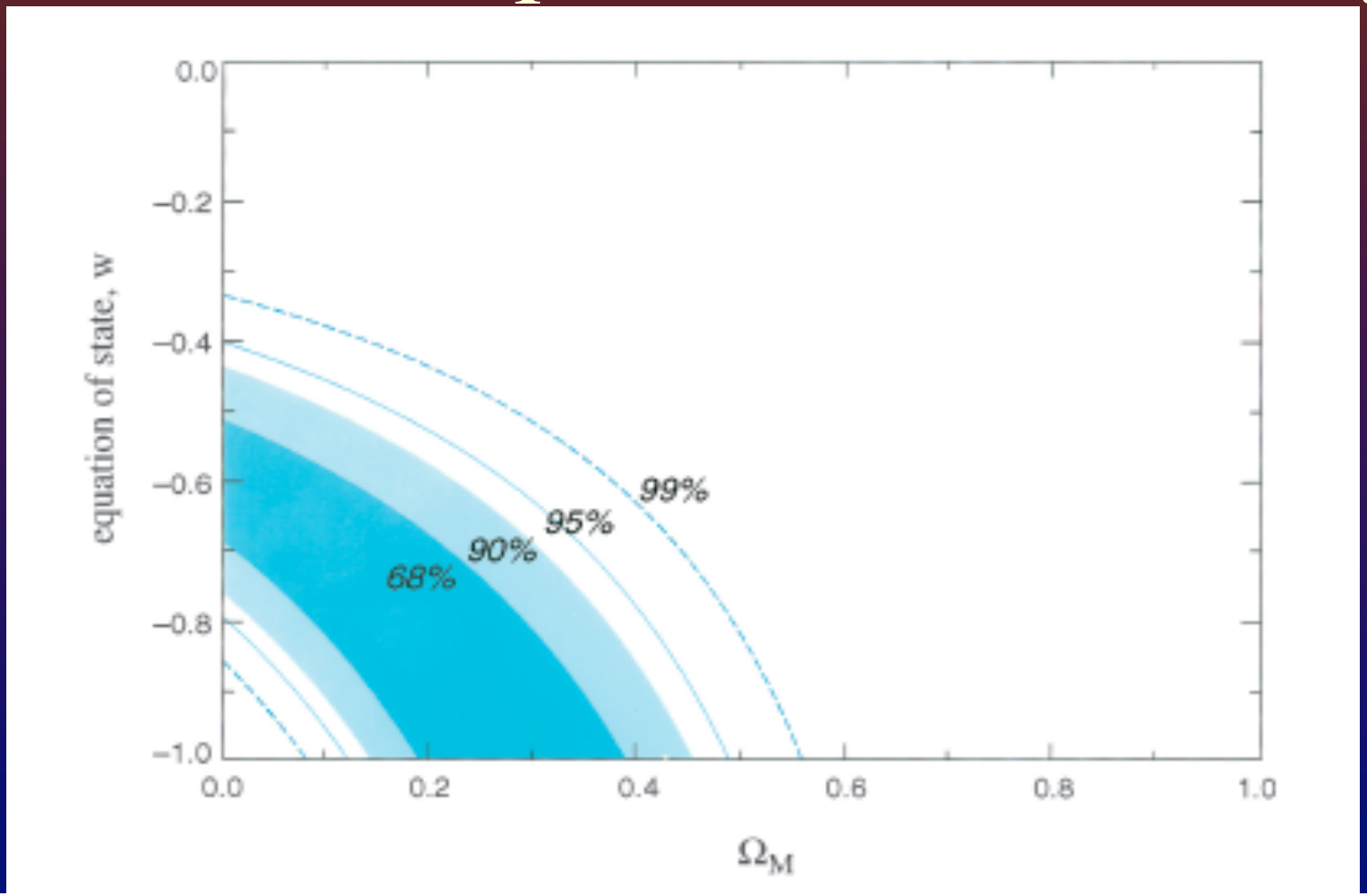
Confidence Regions for Ω_M - Ω_Λ

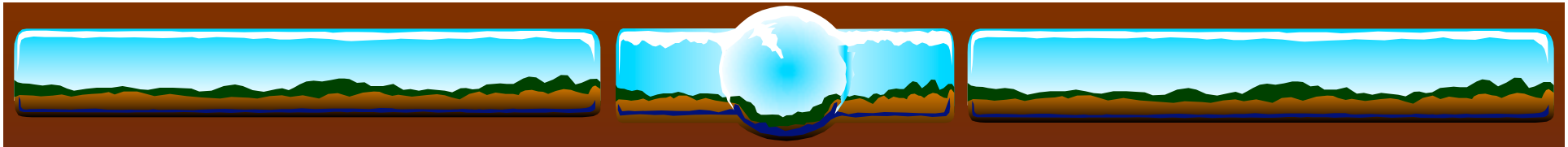


Isochrones of constant $H_o t_o$



Time Independent Equation of State for a Flat Space-Time Geometry





Supernova Limits on the Cosmic Equation of State

- Peter M. Garnavich, Saurabh Jha et. al.

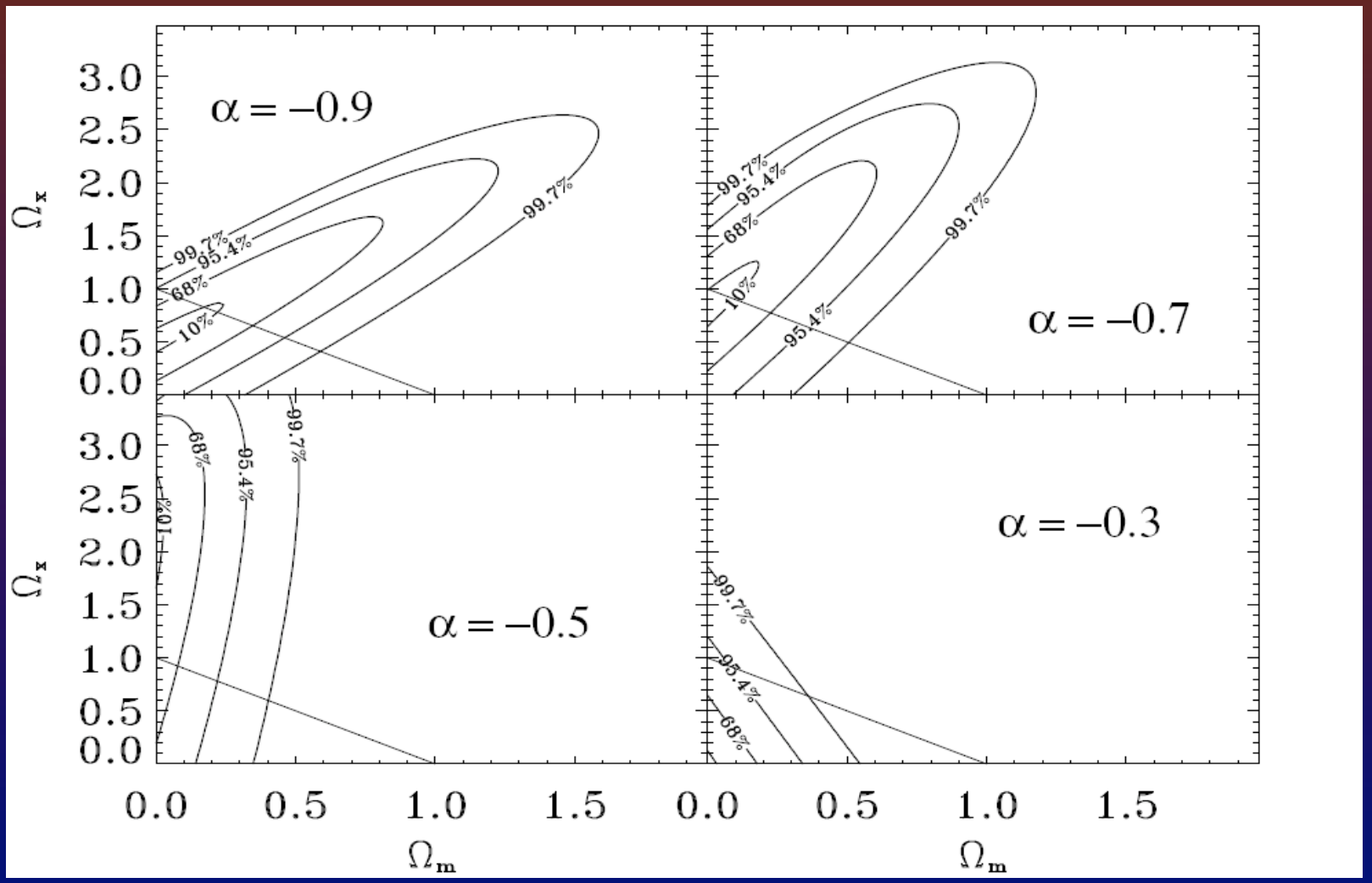
Friedmann-Robertson-Walker geometry dependent Luminosity distance

$$m = M + 5 \log D_L + 25$$

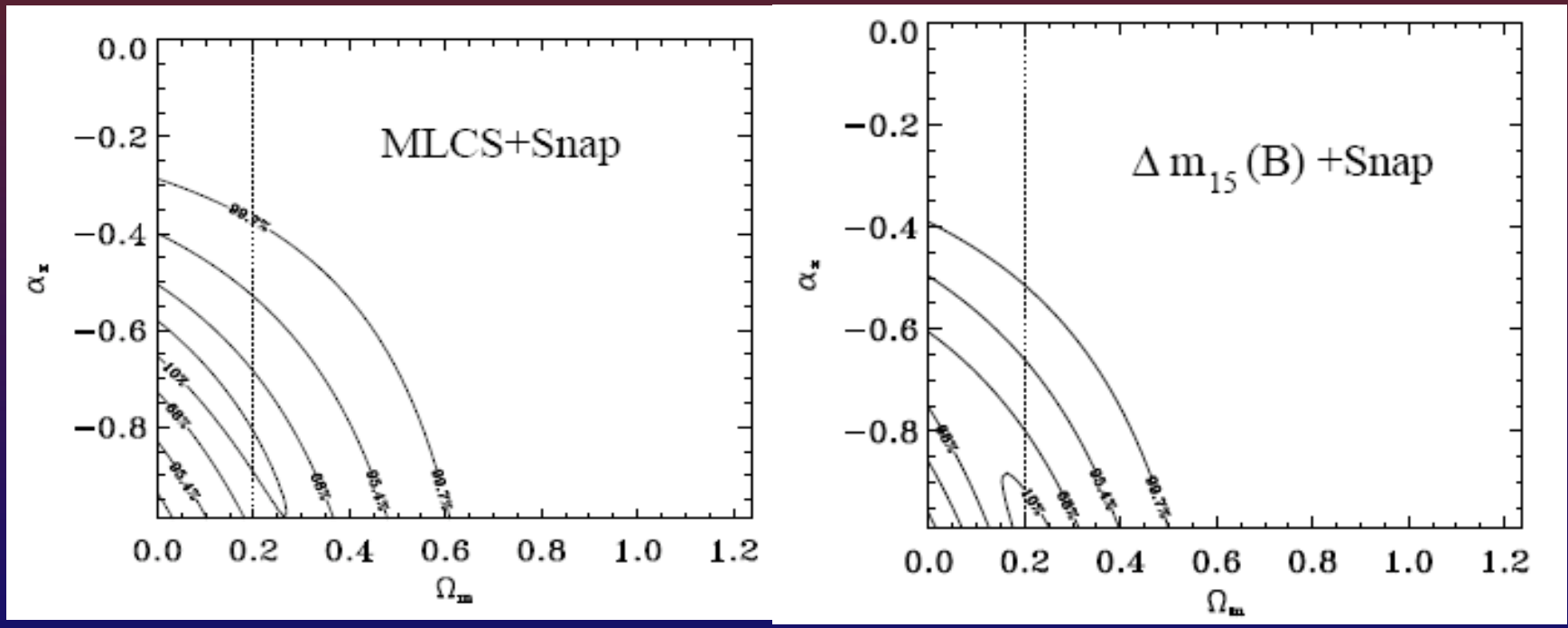
$$D_L = \frac{c(1+z)}{H_0\sqrt{|\Omega_k|}}\,\mathrm{sinn} \times \left\{\sqrt{|\Omega_k|}\int_0^z \left[\sum_i \Omega_i(1+z')^{3(1+\alpha_i)} + \Omega_k(1+z')^2\right]^{-1/2} dz'\right\}, \quad (1)$$

$$\mathrm{sinn}(x) = \begin{cases} \sinh(x), & \text{if } \Omega_k > 0; \\ x, & \text{if } \Omega_k = 0; \\ \sin(x), & \text{if } \Omega_k < 0, \end{cases} \quad (2)$$

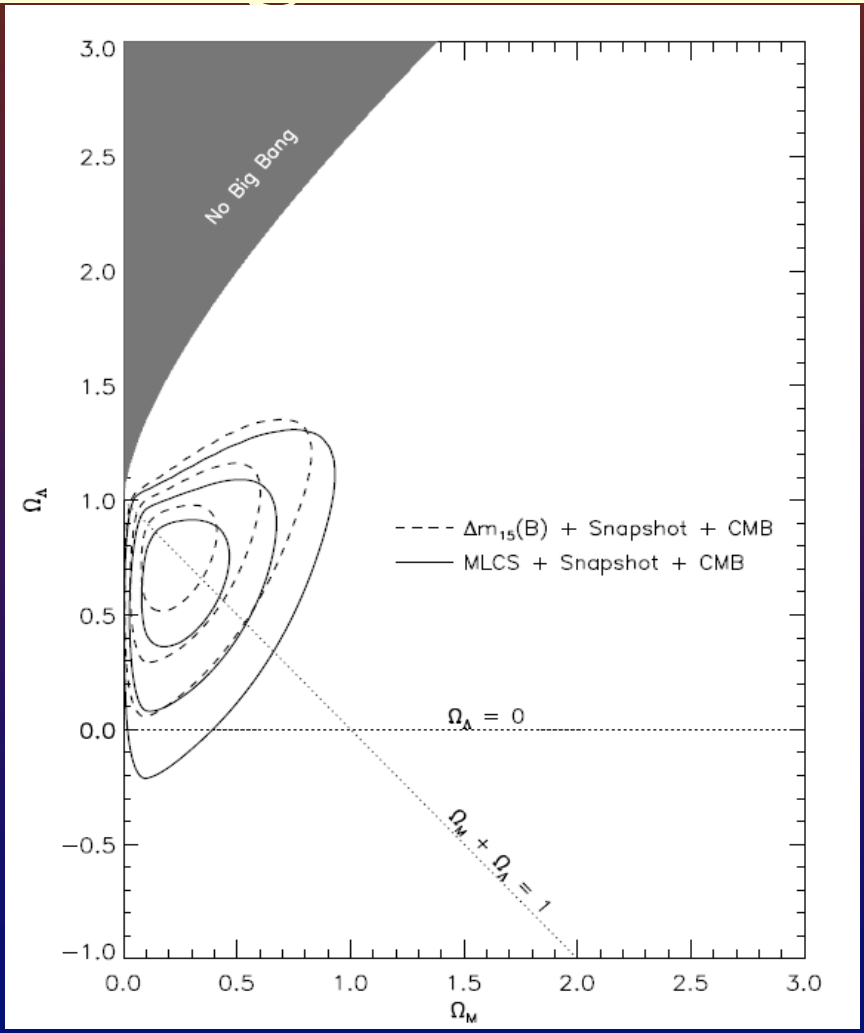
Joint Probability Distributions for Unknown Ω_x Vs. Ω_m at various α's



Joint Probability Distributions for Ω_m and Equation of State α_x



Constraints on first Doppler Peak of the CMB Angular Power Spectrum



CMB Confirmation