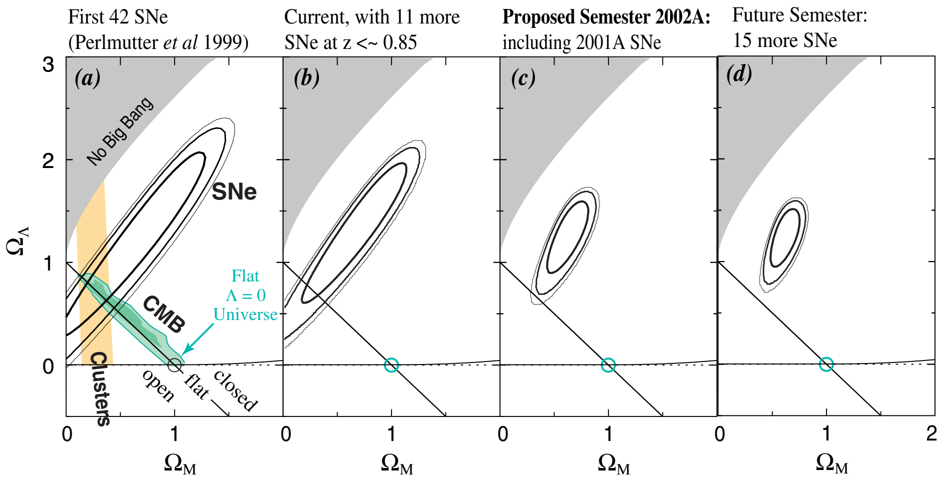

Figure 1: *(a)* 68%, 90%, and 95% confidence regions in the Ω_M—Ω_Λ plane from the 42 distant SNe Ia in Perlmutter *et al.* 1999, with the overlap of the recent combined CMB results (Jaffe *et al.* 2001) and the Ω_M measurements from galaxy clusters. *(b)* Results presented by Knop *et al.* (2000) for the confidence region after including our next 11 SNe Ia with HST followup. *(c)* Expected confidence region size after proposed semester 2002A (including the SNe from our 2001A Gemini proposal). *(d)* After one more semester. These simulations show that our proposed program can check the curvature of the universe found by the CMB program; we dramatize the point by showing a scenario in which the universe is *not* flat, e.g., using the central Ω_m,Ω_Λ value of panel *(a)*.

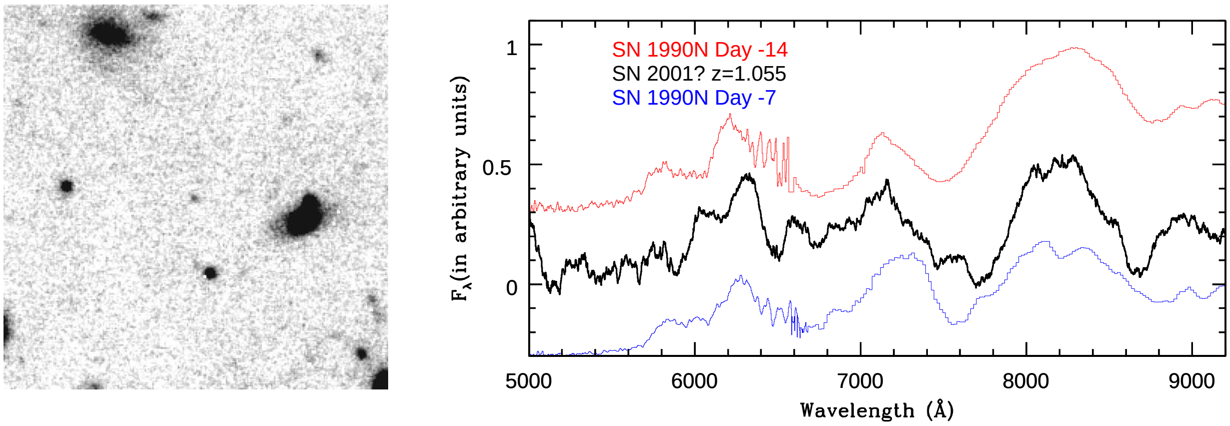

Figure 2: (a) $30'' \times 30''$ section of our NIRI image centred on "Satie", a supernova at $z = 1.06$ discovered in our search during semester 2001A. The combined NIRI image of ~ 12 hours data reaches a signal to noise of about 14. It appears from optical imaging with HST that the host galaxy may be sufficiently weak that no final reference J-band image will be needed for this supernova. (b) Spectrum of "Satie" obtained in a 2 hours at the Keck telescope using ESI, comapred to the nearby template SN1990N. The ESI spectrum has been smoothed on a scale of 155$\AA$.

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