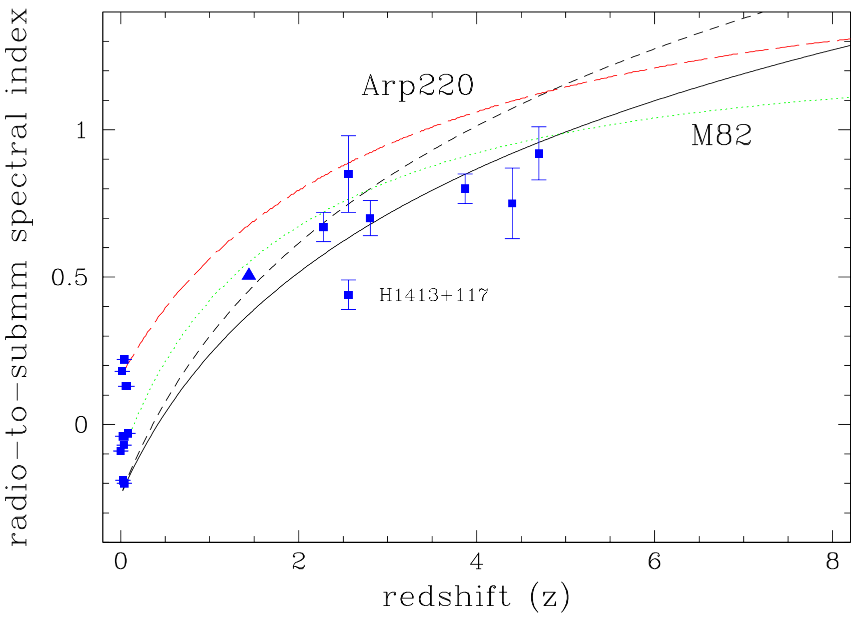

Figure 4. Two power-law models (Carilli and Yun 1998) for the 1.4 GHz to 350 GHz spectral index, $\alpha_{1.4}^{350}$, for star forming galaxies as a function of redshift are shown with a solid curve ($\alpha_{\rm submm}$ = +3.0) and a short dashed curve ($\alpha_{\rm submm}$ = +3.5). These models are based on semi-analytic expressions for star forming galaxies derived using the radio-to-far IR correlation as quantified by Condon (1992). The assumed radio spectral index is −0.8. The dotted and long-dashed curves show the expected values of $\alpha_{1.4}^{350}$ versus redshift based on the observed spectra of the star forming galaxies M82 and Arp 220, respectively. Also plotted in filled squares are the submm data for the low redshift galaxies from a survey of nearby active star forming galaxies using the JCMT (Hughes et al. 1990, Rigopoulou et al. 1996) and the submm data for the z > 1 sources are from Rowan-Robinson et al. (1993), Isaak et al. (1994), Barvainis et al. (1995), Omont et al. (1996b), Ivison et al. (1998ab), Lewis et al. (1998), and Kawabe et al. (1998). The filled triangle marks the 3σ lower limit for the z=1.44 galaxy HR10 (Dey et al. 1998). All the radio data are from the Very Large Array. Overall, the models appear to define (within the errors) the range in observed values of $\alpha_{1.4}^{350}$ as a function of redshift. In particular, the galaxies at z > 1.5 have $\alpha_{1.4}^{350}$ values