1 Yamazaki

Bryan Gaensler *Question* In your model, the γ-ray spike is 1000 times brighter then the 1979 & 1998 events because of beaming. But how do you explain that the radio afterglow of the 2004 giant flare was also 700 times more luminous then the afterglow of the 1998 giant flare?

Answer Dai et al (2005) fitted the radio afterglow of 2004 Dec 27 event with two component jet model and obtained the total kinetic energy of $\sim 10^{44}$ergs. On the other hand, radio afterglow of 1998 Aug 27 event has also been fitted witht he jet model (Cheng (?) et al) and inferred kinetic energy is $\sim 10^{44}$ergs (however, with somewhat non-standard values of ϵ_B)

So I think that, at present, radio observations of 2004 Dec 27 event and 1998 Aug 27 event are consistant with our 'united" model, in which 2004 Dec 27 event arises if highly relativistic energetic core of the 'structured" jet is viewed while 1998 Aug 27 event arises if the less energetic envelope of the jet is viewed.