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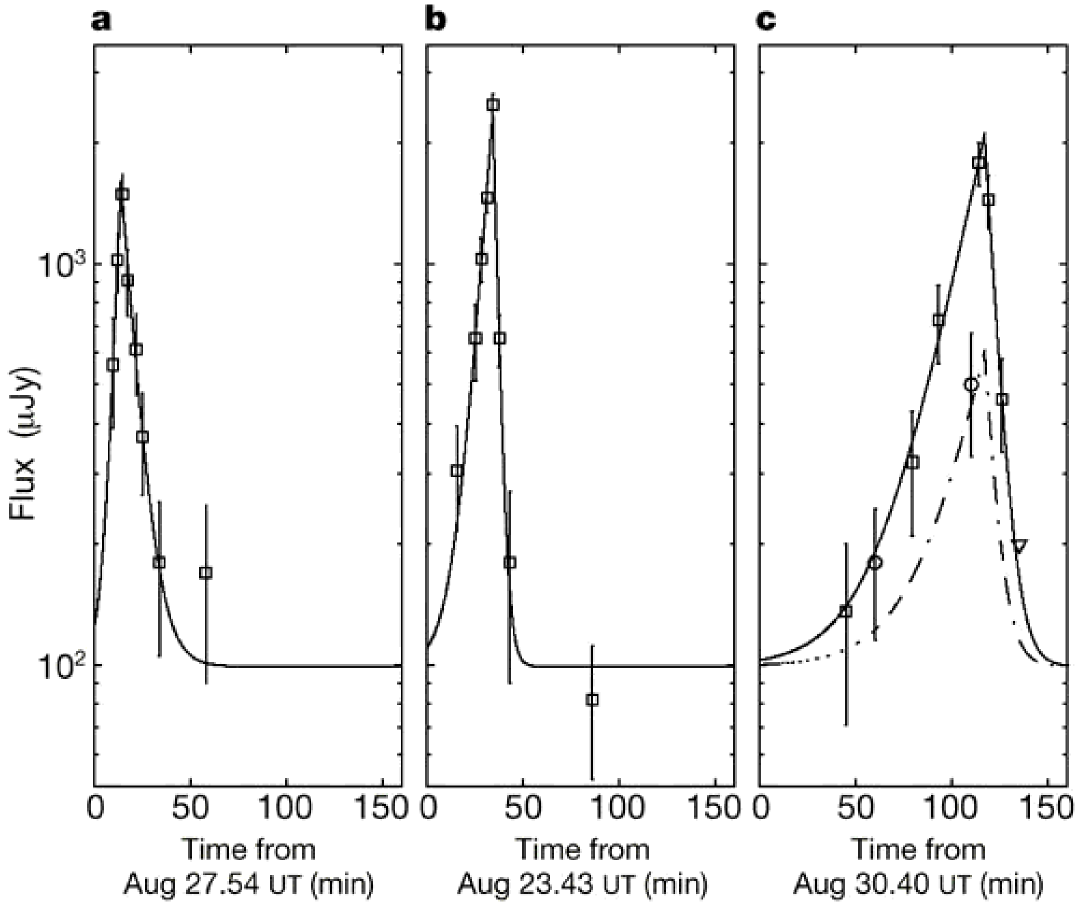

Figure 1 Light curves for the flaring radio emission from LP944-20. Data obtained at 8.5 GHz (squares) show strong flares and quiescent emission; the figure also shows self-absorbed emission at 4.9 GHz (circles; upper limit is given by an inverted triangle). The three panels are the light curves on **a**, 2000 July 27.54; **b**, 2000 August 23.43; and **c**, 2000 August 30.40. Time in minutes is relative to the starting time of each observation, and the solid line is the model fit based on the fitting equation given in Table 2. **c**, Also shown is the flux density at 4.9 GHz, which was measured simultaneously with the 8.5-GHz observation. Based on the ratio of the flux densities at these two frequencies we find that the spectral index is 2.1 ± 0.3, which indicates that the emission at 4.9 GHz is self-absorbed. The dashed line is a model fit based on the simple model (Table 2) and the spectral shape of optically thick synchrotron emission, $F_\nu \propto \nu^{5/2}$. From these light curves we can calculate the magnetic field strength and the number density of trapped electrons using the equations for synchrotron emission: $(eB/m_e c)\gamma_e^2 = \nu \approx$ 8.5 GHz and $43\sigma_T c \gamma_e^2 (B^2/8\pi)N = 4\pi d^2 \nu F_{\nu\text{peak}} \approx 5$

$\times 10^{23}$ erg s^{-1}, where e and m_e are the electron charge and mass, respectively, σ_T is the Thomson cross-section, N is the total number of trapped electrons, d is the distance to the source, and $F_{\nu peak}$ is the peak-flare flux density.

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