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SUPPLEMENTAL INFORMATION

Observational Details: For the VLA observations we used the standard continuum mode with 2×50 MHz bands, with the exception of the 1.46 GHz observation of 4 January 2005, which was taken in spectral line mode with 8 channels of width 3.1 MHz. We used the extragalactic source 3C 286 (J1331+305) for flux calibration, while the phase was monitored with J1820-254, J1751−253, and J1811−209. The listed flux densities and uncertainties were measured from the resulting maps by fitting an elliptical Gaussian model to the afterglow emission. The GMRT observations were performed in dual frequency mode with 16 MHz bandwidth divided into a total of 128 frequency channels for 610 MHz observations, and 6 MHz of bandwidth divided into 64 channels for the 235 MHz observations. The observations at 1060 MHz at GMRT were carried out with a bandwidth of 32 MHz. 3C 48 (J0137+331) and 3C 286 were used as flux calibrators, and J1822−096 was used as the phase calibrator. These sources were also used for bandpass calibration. We obtained the flux densities of the source by fitting a Gaussian with a background level plus a slope and removed the contribution from a nearby weak source. Because of the high density of radio sources in the galactic plane in which SGR 1806−20 is located, the antenna system noise temperature has notable contributions from the sky within the telescope beam. This reduces the signal to noise ratio and an appropriate correction must be made to the observed flux (especially at low frequencies), since the flux calibrators which establish the flux scale lie well outside the galactic plane and are in an environment of less sky temperature. We applied a T_{sys} correction factor for 3C 48 of 3.88 and 1.93, and for 3C 286 of 3.87 and 1.8, for the 235 MHz and 610 MHz, respectively. Both the VLA and GMRT data were reduced and analyzed using the Astronomical Image Processing System. The ATCA observations were performed in snapshot mode with 100MHz of effective bandwidth. The amplitude calibrator was J1934−638, whereas J1711−251, J1817−254, and J1811−209 where used as phase calibrators. The last of these was observed in a rapid (3 minute) cycle mode to compensate for its poor phase stability. The flux densities were determined by performing a local parabolic fit to the peak closest to the known position of the source. The NMA observations were performed at 102 GHz in D-configuration (the most compact configuration) on 4 January 2005, and in AB configuration (longest baseline configuration) on 12, 13 January 2005. We used NRAO530 for the phase calibration, and assumed it to have a flux density of 2.3 Jy.

Details of Source Size Measurements: The source sizes were measured by modeling the calibrated visibilities with the model-fitting procedure in DIFMAP. This procedure employs the Levenberg-Marquardt non-linear least squares minimization technique while fitting a 6 parameter elliptical Gaussian to the visibilities. The errors were determined with DIFWRAP using the following scheme: the source size parameters were stepped in small increments around their best-fitted value to form a grid of values. At each grid point the source size parameters were held fixed while the other model parameters were allowed to 'relax' with 4 model-fitting rounds. The 95% confidence limits were determined by those models that had a $\Delta\chi^2 < 12.8$ as measured from the best-fit total χ^2 (Press, W. H., Teukolsky, S. A., Vetterling, W. T. and Flannery, B. P. *Numerical Recipies in C. The art of scientific computing.* Cambridge: University Press, 2nd ed. 1992). As a check we used phase only self-calibration as well as phase and amplitude self-calibration, both of which give consistent source size measurements. We also used 30 second time-averaged data sets (to reduce the number of degrees of freedom), and found the best fit model parameters agreed to within the errors.

Frequency (GHz)	α_A	t_1 (days)	α_B	t_2 (days)	α_C
0.240	-1.7 ± 0.1	—	—	—	—
0.61	-1.9 ± 0.1	—	—	—	—
1.4	-2.0 ± 0.2	10.7 ± 0.3	-4.1 ± 0.3	13.8 ± 0.2	-0.85 ± 0.2
2.4	-0.95 ± 0.3	9.8 ± 0.2	-3.5 ± 0.2	13.8 ± 0.5	-0.95 ± 0.2
4.9	-1.55 ± 0.15	8.8 ± 0.2	-3.1 ± 0.2	18.6 ± 3.0	-0.65 ± 0.3
6.1	-2.3 ± 0.1	—	—	—	—
8.5	-2.00 ± 0.15	8.1 ± 0.3	-2.8 ± 0.24	18.0 ± 3.0	-0.64 ± 0.4

Table : Summary of temporal indices and breaks in the light curve of SGR 1806−20 in 7 frequency bands. The fits represent minimums in χ^2 subject to the conditions that the two power-law slopes are continuous at the break point and disagree by more than 1-σ. The first and second break points are denoted by t_1 and t_2, respectively. The temporal decay indices ($S_\nu \propto t^{\alpha_i}$) are α_A for $t < t_1$, α_B for $t_1 < t < t_2$, and α_C for $t > t_2$.