

# A very large glitch in the pulsar PSR B2334+61

A.A. Ershov

Pushchino Radioastronomy Observatory of the Astrocosmic Center of the Lebedev Physical Institute, PRAO ASC FIAN (Pushchino, Russia)

The pulsar B2334+61 was discovered in 1985. It has a period of 0.495 seconds, a period derivative of  $1.9 \times 10^{-13}$ , and a characteristic age of  $4 \times 10^4$  years. The PSR B2334+61 is located very close to the center of the supernova remnant G114.3+0.3. Timing observations have been made at the Pushchino Radioastronomy Observatory since 2001 using the BSA radio telescope at the frequency of 111 MHz. Post-detection de-dispersing receiver was used with a time resolution about of one millisecond. The data between 2001.6 and 2005.7 are well fitted by a simple model consisting of the rotation frequency and its two derivatives. The timing residuals from this model have an rms of about one millisecond. On 7 September 2005 (MJD = 53620.9), the pulse rapidly drifted in phase, indicating that the rotation frequency increased drastically since the previous observation on 5 September 2005 (MJD = 53618.9). For this glitch, the rotation frequency change was  $dF/F = 3.17 \times 10^{-5}$ . This glitch is the largest observed in any radio pulsar.