

## SEARCH FOR PLERIONS IN THE DIRECTION OF TWO YOUNG PULSARS

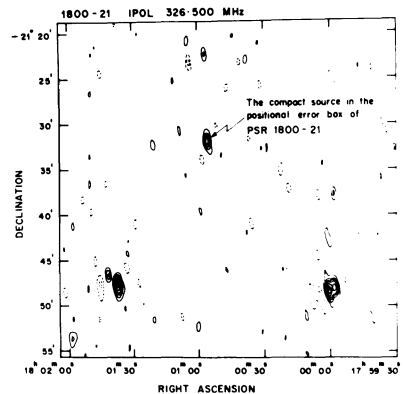
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Two of the recently discovered pulsars PSR 1800-21 and 1823-13 have characteristics ages of 17,000 and 22,000 yr respectively and all the three known pulsars that are younger than these two lie within the known supernova remnants (Clifton and Lyne, 1986). These two pulsars are expected to have, by scaling from the Crab nebula, plerions of  $\sim 1$  Jy each associated with them at 327 MHz. We mapped a field of  $1.5 \times 1.5$  around both the pulsars with the Ooty Synthesis Radio Telescope (Swarup, 1984). As the fields are on the galactic plane having complex large scale emission and as the plerions are expected to be compact, we have made maps by excluding baselines less than  $500 \lambda$ . This would make our maps insensitive to emission regions larger than  $\sim 7$  arc min. The synthesised beam is  $96 \times 36$  arc sec in PA  $0^\circ$ . No source with a surface brightness greater than 60 mJy/beam was detected in the direction of PSR 1823-13. An unresolved source of  $\sim 150$  mJy was detected, in the positional error box of PSR 1800-21, as is shown in the figure. No pulsed emission with an average flux density greater than 10 mJy was detected from this continuum source. It is possible that the pulse is so highly scatter broadened that it becomes undetectable at 327 MHz and the detected source is the scatter broadened pulsar. But, such a possibility seems unlikely as the pulsar's dispersion measure is only  $230 \text{ cm}^{-3} \text{ pc}$ , leaving the interesting possibility that the detected source is a plerion associated with the pulsar.



CONTOUR LEVELS = -80, -40,  
40, 80, 120, 160, 240, 320,  
400 mJy/beam

### REFERENCES

- Clifton, T.R. and Lyne, A.G., 1986. *Nature*, **320**, 43.  
Swarup, G., 1984. *J. Astrophys. Astron.*, **5**, 139.