This proposal has been submitted before.

The previous proposal number is P3078.

**Proposal Type:** Regular  
**General Category:** Pulsars  
**Observation Category:** Galactic  
**Total Time Requested:** 50.0 Hours  
**Minimum Useful Time:** 1 hour

**Proposal Title:** Four pulsar binaries discovered in the PALFA survey

**ABSTRACT:**

We propose to observe four binary systems. Two of these systems are recycled pulsars in eccentric double neutron star (DNS) binaries for which we expect to produce a precise measurement of the relativistic advance of periastron. The third system is a recycled pulsar in a circular orbit-in this and the two DNS systems we wish to make a concerted effort to detect Shapiro delay. Periastron advance and the Shapiro delay measurements will constrain or determine the individual masses in these systems. The fourth system is a slow pulsar in a long, eccentric orbit with a companion whose nature is uncertain, but may be a neutron star-for this and the two DNS systems, we wish to perform deep searches for a companion pulsar, the discovery of which would result in the only second known double-pulsar system.

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>E-mail</th>
<th>Phone</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chitrang Patel</td>
<td>McGill University</td>
<td><a href="mailto:chitrang.patel@mail.mcgill.ca">chitrang.patel@mail.mcgill.ca</a></td>
<td>5142137045</td>
<td>no</td>
</tr>
</tbody>
</table>

**Remote Observing Request**

- [ ] Observer will travel to AO  
- [x] Remote Observing  
- [ ] In Absentia (instructions to operator)

**Instrument Setup**

430 G L-wide

**Atmospheric Observation Instruments:**

**Special Equipment or setup:** none
RFI Considerations

Frequency Ranges Planned

This proposal requires Iridium RFI protection at 1612 MHz between 10pm and 6am EST.
This proposal requires coordination with Punta Salinas radar within the band 1222-1381 MHz.
This proposal requires coordination with GPS L3 at 1381 MHz.