

# **Memorandum of Understanding: Radio Pulsar Searches of Fermi-Detected Pulsars and Unidentified Point Sources**

December 13, 2008

## **Abstract**

This document outlines a collaboration, the Pulsar Search Consortium (PSC), between members of the Fermi LAT collaboration and a group of radio pulsar observers where the Fermi LAT team provides the location and ephemerides of pulsars detected in gamma-ray blind searches and a list of unidentified point source locations and error boxes to enable deep radio searches to be performed as expeditiously as possible.

## **1. Introduction**

Fermi has been extremely successful in discovering gamma-ray pulsars using blind searches on the gamma-ray data themselves. To date, approximately 14 such pulsars are known. To fully understand these systems, it is important to know whether these are radio pulsars as well, and deep radio pulsar searches are required. The goal of this MoU is to agree on the rules under which a group of radio observers can be provided with proprietary Fermi LAT information (during the all-sky survey phase in year 1) to allow them to submit proposals and make radio observations as soon as possible.

The specific source lists will be provided to radio observers separately once this document is agreed to by the parties.

Any shared information that is not public (from either group) will be treated in confidence by all parties to this agreement. Parties to the agreement agree not to share these results outside the collaborations in any form, including publications, Web sites, e-mail, ATELS, or seminars. This agreement does not prevent either collaboration from publishing their own data, with the following proviso: the Pulsar Search Consortium (PSC) members agree not to publish pulsar discoveries derived from LAT-team-provided information before the LAT publication, unless the LAT team approves such publication.

The PSC will use whatever telescope resources it can bring to bear. Specific proposal plans include the 2008 December 15th Parkes deadline, the 2009 February 1 GBT deadline and TOO observations with Arecibo, Parkes, and Jodrell Bank.

## **2. Membership**

The LAT team members on this list are representing the full LAT collaboration. They represent the Fermi leadership and LAT team members expected to participate directly in this effort. The outside members were chosen for their particular expertise with these sources and the

telescopes most likely to be useful for deep searches, as well as those observers who have made significant contributions to Fermi pulsar studies.

### **LAT Team Members:**

- Peter Michelson
- David Smith
- Alice Harding
- Dave Thompson
- Pablo Saz Parkinson
- Marcus Ziegler
- Paul Ray
- Aous Abdo
- Kent Wood
- Roger Romani
- Michael Kramer
- Simon Johnston
- Gilles Theureau
- Ismael Cognard

### **External Members:**

- Fernando Camilo
- Paulo Freire
- Mike Keith
- Scott Ransom
- Mallory Roberts
- Ben Stappers
- Patrick Weltevrede

## **3. Publication Policy**

The main thing the Fermi LAT team wants to avoid is having a blind search pulsar first announced/published in a paper on the radio follow-up observation of that source. So, there are two ways to publish the radio results (the choice of which method to pursue is basically up to the radio discovery team since they can decide to join the initial Cat I paper or not):

1. The radio follow-up could be included in a Category I paper on the Fermi discovery. A Cat I LAT paper is a broad authorship LAT paper on which all full members of the LAT team are eligible authors. On such papers the author list can be in two blocks of authors, one block consisting of radio observers and the other consisting of the LAT team authors. Alternatively, the complete author list on such Cat I papers can be alphabetical.
2. The radio follow-up could be published separately from (either at the same time or after) the Fermi discovery paper. This paper would then be a Category II paper which means that the only Fermi LAT team members on the paper would be those who had made direct scientific contributions to the paper. The author order would either be alphabetical or

would be in basic order of contribution with the people directly doing the radio observing/data analysis first. The details will be worked out case-by-case.

In general, members of this PSC will be eligible to join as authors on papers written using data obtained under the auspices of the PSC. The goal here is to prevent unnecessary use of telescope time simply in a race to be first. As a collaboration, we will attempt to optimize the use of telescope time for maximum scientific benefit. In the event that particular situations require the addition of other authors (for example, to get access to archival data owned by a different collaboration or people who help with observations or analysis) these can be accommodated on a case-by-case basis.

This publication policy applies to proposals and observations that make use of the proprietary data (at the time of the radio observing proposal) furnished by the LAT team. Proposals that are initiated after public release of the LAT information (typically in the form of a publication) need not follow these rules, though it may be advantageous to continue such work with the PSC.