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Abstract for an Invited Paper for the NWS06 Meeting of the American Physical Society

Relativistic Binary Pulsar Systems INGRID STAIRS, University of British Columbia

Radio pulsars in double-neutron-star systems provide the best tests of strong-field gravitational theories. I will present recent observations of PSR B1534+12 and the double-pulsar system J0737-3039A/B. In both cases, the pulsar timing observations are sensitive to multiple relativistic corrections to the basic Keplerian orbit, and therefore yield multiple tests of general relativity, with the double pulsar providing the strongest test to date. General relativistic effects are also observable via profile shape changes due to geodetic precession; for B1534+12 a measurement of the precession rate is possible. I will discuss the implications and future prospects for both systems.