

# The double pulsar: a unique lab for relativistic plasma physics and tests of general relativity

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**ABSTRACT:** The double pulsar system is a unique physical and astrophysical laboratory. It does not only confirm earlier theories about pulsar radio emission and the evolution of binary pulsars, but it is also the most relativistic system ever found. It allows us to observe a large number of relativistic effects simultaneously in single system, providing unique tests of theories of gravity. I will summarize the important features of the system, give an update on the observational results, and demonstrate the countless applications of the double pulsar, resulting in the best strong-field test of general relativity ever.