

Abstract

Positronium molecule is an exotic four-body system [consisting of two electrons and two antielectrons (positrons)]. Its existence was originally predicted by John Archibald Wheeler in 1940s and it has been observed in 2007 by David Cassidy and Allen Mills. Relativistic wave equations in quantum electrodynamics of few-body systems will be presented and application to the particular cases of positronium, positronium negative ion, and positronium molecule are discussed.