

Relativistic quantum mechanics

Lecture by Prof. Iwo Białynicki-Birula

Summer semester of 2021/22, Mondays, 10-12 AM, Zoom

1. The meaning of “relativistic”
2. The Wigner classification of elementary particles
3. Klein-Gordon equation: The universal relativistic wave equation
4. Maxwell equations: Quantum wave equations for photons
5. Proca equations: Equations for massive bosons of spin 1
6. Dirac equation: The most important relativistic wave equation
7. Fundamental differences between relativistic wave equations and the nonrelativistic Schroedinger wave equation
8. Uncertainty relations in relativistic quantum mechanics