

## Positronium - Singlet State (12 Points)

### Electron

Electric Charge: -1  
Spin: 1/2  
Mass: 0.511 MeV  
Half Life: Stable

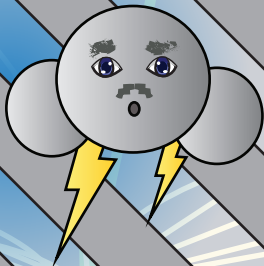
Colour Charge: No  
Lepton Number (e): 1  
1st generation (1 point)



### Positron (Anti-Electron)

Electric Charge: +1  
Spin: 1/2  
Mass: 0.511 MeV  
Half Life: Stable

Colour Charge: No  
Lepton Number (e): -1  
1st generation (1 point)



## Positronium - Triplet State (12 Points)

### Electron

Electric Charge: -1  
Spin: 1/2  
Mass: 0.511 MeV  
Half Life: Stable

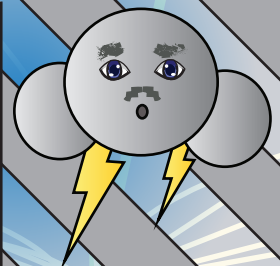
Colour Charge: No  
Lepton Number (e): 1  
1st generation (1 point)



### Positron (Anti-Electron)

Electric Charge: +1  
Spin: 1/2  
Mass: 0.511 MeV  
Half Life: Stable

Colour Charge: No  
Lepton Number (e): -1  
1st generation (1 point)



**Electric Charge: 0**  
**Spin: 0**  
**Mass: 1.022 MeV**  
**Half Life:  $1.25 \times 10^{-10}$  s**

Positronium is a particle system consisting of an electron and a positron bound together.

The existence of Positronium was theoretically predicted between 1932-1934 but it was not experimentally discovered until 1951.

**Electric Charge: 0**  
**Spin: 1**  
**Mass: 1.022 MeV**  
**Half Life:  $1.42 \times 10^{-7}$  s**

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The existence of Positronium was theoretically predicted between 1932-1934 but it was not experimentally discovered until 1951.