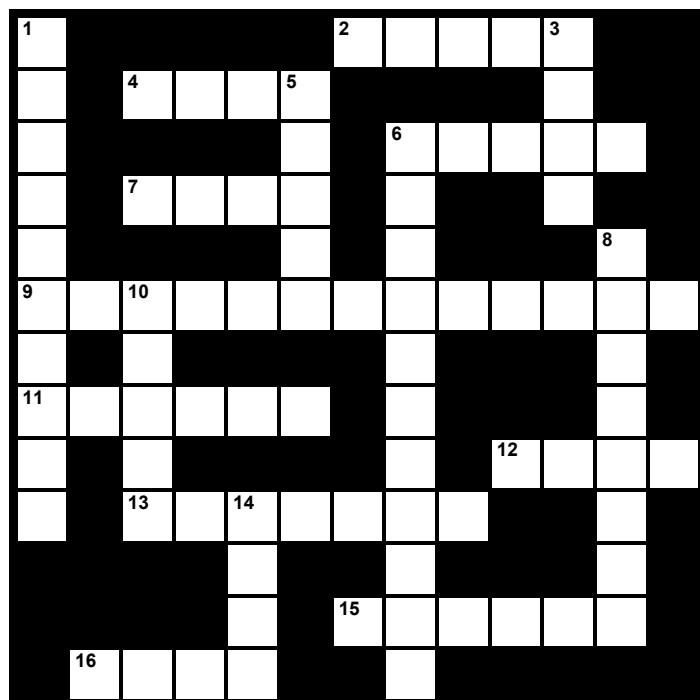


# Particle\_Physics\_13x13\_2003-10-20

B.B. Huria



## Across

- 2 Hypothetical truly fundamental particle in mesons and baryons; there are supposed to be six flavors of quarks (and their antiquarks), which come in pairs; each has an electric charge of  $+2/3$  or  $-1/3$ . (5)
- 4 The particle stream produced by an accelerator usually clustered in bunches. (4)
- 6 Any particle that obeys Bose-Einstein statistics but not the Pauli exclusion principle; all nuclei with an even mass number are bosons. (5)
- 7 The property of a

body that causes it to have weight in a gravitational field. (4)

- 9 The theory that the universe originated 20 billion years ago from the cataclysmic explosion of a small mass of matter at extremely high density and temperature. (3,4,6)

- 11 Another name for strange quark. (6)
- 12 Intrinsic angular momentum. (4)
- 13 The positively charged dense center of an atom. (7)
- 15 A stable particle with positive charge equal to the negative charge of an electron. (6)
- 16 An elementary

particle with a negative charge and a half-life of 2 microsecond; decays to electron and neutrino and antineutrino. (4)

of  $-1/3$  and a mass about 10,000 times that of an electron. (6,5)

- 8 The carrier particle of the gravitational interactions; not yet directly observed. (8)

- 10 A gauge boson that mediates strong interaction among quarks. (5)

- 14 The major European international accelerator laboratory located near Geneva, Switzerland. (4)

## Down

- 1 A particle that mediates the interaction of two elementary particles. (5,5)
- 3 An unstable meson produced as the result of a high-energy particle collision. (4)
- 5 An elementary particle responsible for the forces in the atomic nucleus; a hadron with a baryon number of 0. (5)
- 6 A quark with a charge