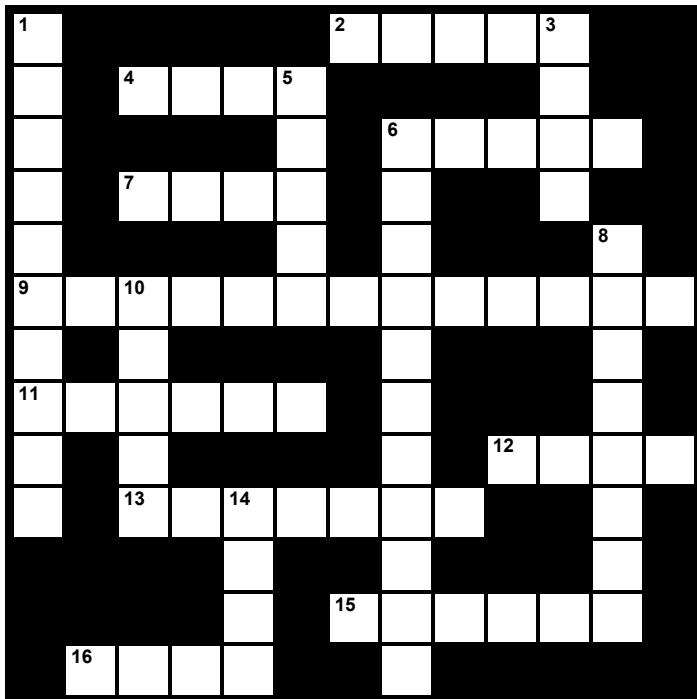


## Particle\_Physics\_13x13\_2003-10-20

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)

### 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

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)