Particle_Physics_15x15_2008-10-18

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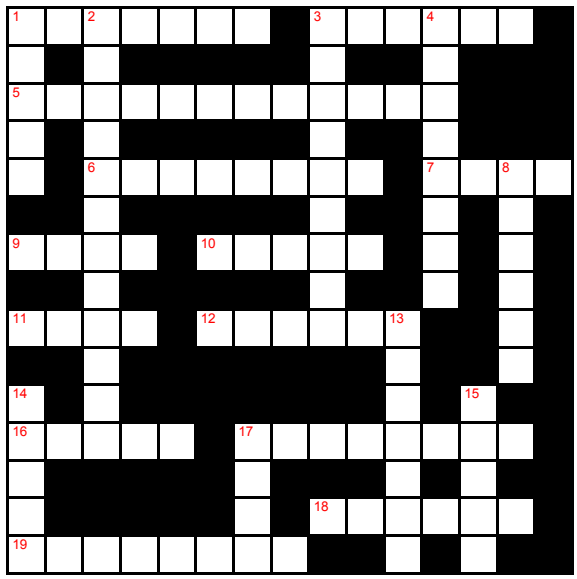

Across

1 The smallest quantity of some physical property that a system can possess (according to quantum theory). (7)

3 The quantity of unbalanced electricity in a body (either positive or negative) and construed as an excess or deficiency of electrons. (6)

5 The physics of astronomical objects such as stars and galaxies. (12)

6 An elementary particle with positive charge; interaction of a positron and an electron results in annihilation. (8)

7 The property of a body that causes it to have weight in a gravitational field. (4)

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

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

11 Intrinsic angular momentum. (4)

12 Any of the elementary particles having a mass equal to or greater than that of a proton and that participate in strong interactions. (6)

16 What occurs when two particles collide or a single particle decays. (5)

17 Another name of meson. (8)

18 A stable particle with positive charge equal to the negative charge of an electron. (6)

19 An elementary particle with zero charge and zero mass. (8)

Down

1 Hypothetical truly fundamental particle in mesons and baryons. (5)

2 A particle that has the same mass as another particle but has opposite values for its other properties. (12)

3 The metaphysical study of the origin and nature of the universe. (9)

4 The mass of a body as measured when the body is at rest relative to an observer, an inherent property of the body. (4,4)

8 Another name for strange quark. (6)

13 An elementary particle with 0 charge and mass about equal to a proton; enters into the structure of the atomic nucleus. (7)

14 An elementary particle responsible for the forces in the atomic nucleus; a hadron with a baryon number of 0. (5)

15 Any particle that obeys Bose-Einstein statistics but not the Pauli exclusion principle; all nuclei with an even mass number are bosons. (5)

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