Free Quark Searches

The basis for much of the theory of particle scattering and hadron spectroscopy is the construction of the hadrons from a set of fractionally charged constituents (quarks). A central element of Quantum Chromodynamics is that quarks cannot be observed as free particles but are confined to mesons and baryons. Experiments have produced no evidence for free quarks.

This compilation is only a guide to the literature, since the quoted experimental limits are often only indicative. Reviews can be found in Refs. 1–4.

References:

1. M.L. Perl, E.R. Lee, and D. Lomba, Mod. Phys. Lett. **A19**, 2595 (2004).
2. P.F. Smith, Ann. Rev. Nucl. and Part. Sci. **39**, 73 (1989).
3. L. Lyons, Phys. Reports **129**, 225 (1985).
4. M. Marinelli and G. Morpurgo, Phys. Reports **85**, 161 (1982).