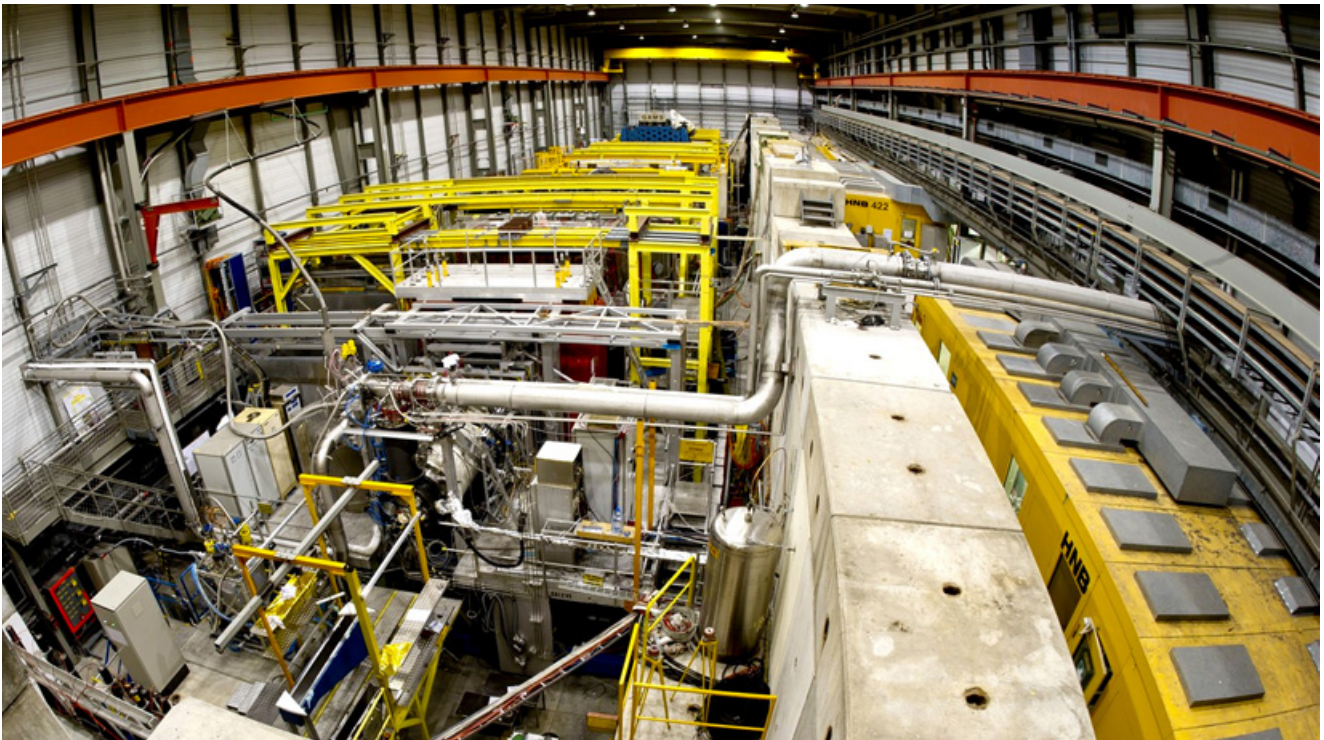


Science Ticker

Particle Physics

New particle may be made of four quarks

By Andrew Grant 4:48pm, February 2, 2015



CERN's COMPASS installation has detected evidence of a particle that may be made up of four quarks.

A newly discovered particle may have an exotic composition. The $a_1(1420)$ particle, reported January 23 online at arXiv.org, could be made up of four quarks — the fundamental constituents of protons, neutrons and many other particles — rather than two or three like the vast majority of quark-based particles of matter.

Physicists found evidence for $a_1(1420)$ in a cascade of subatomic debris using the COMPASS detector at CERN, the European physics lab located outside Geneva. The negatively charged particle has a mass about 1.5 times that of a proton. The unusual way $a_1(1420)$ decays, the researchers say, may indicate that the particle is composed of four quarks, much like a few other recently discovered particles.

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