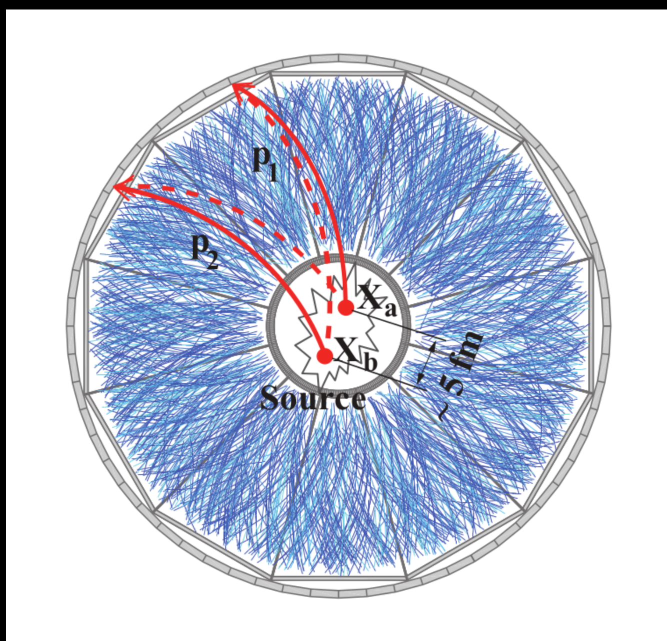
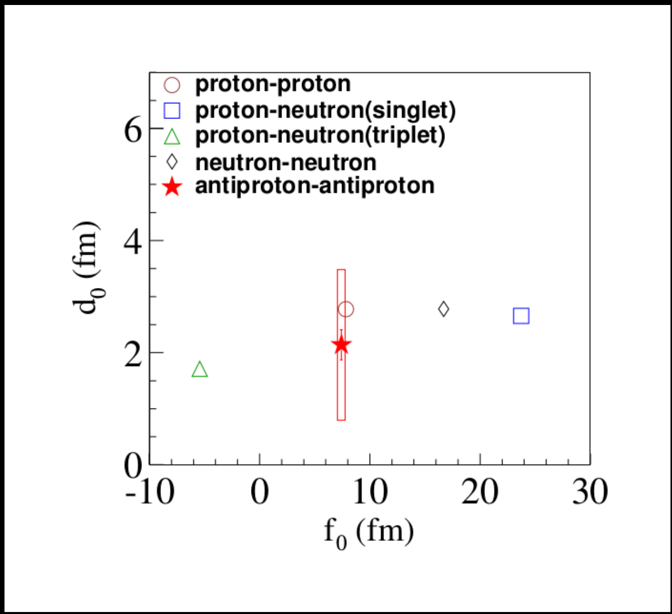
Satanic Conspiracy at the RHIC

"Although antinuclei up to antihelium-4 have been discovered 1 and their masses measured, we have no direct knowledge of the nuclear force between antinucleons. Here, we study antiproton pair correlations among data taken by the STAR experiment 2 at the Relativistic Heavy Ion Collider (RHIC) 3 and show that the force between two antiprotons is attractive. In addition, we report two key parameters that characterize the corresponding strong interaction: namely, the scattering length (f 0) and effective range (d 0). As direct information on the interaction between two antiprotons, one of the simplest systems of antinucleons, our result provides a fundamental ingredient for understanding the structure of more complex antinuclei and their properties."
-taken from article abstract
-arXiv ref 1507.07158



"Figure 1 illustrates the process of constructing two-particle correlations in heavy-ion collisions. In addition to quantum statistics effects, final state interactions (FSI) play an important role in the formation of correlations between particles. FSI include, but is not limited to, the formation of resonances, the Coulomb repulsion effect, and the nuclear interactions between two particles 14, 15, 18, 19. In fact, FSI effects provide valuable additional information. They allows for (see ref 16, 20 and references therein) coalescence femtoscopy, correlation femtoscopy with non-identical particles, including access to the relative space-time production asymmetries, and a measurement of the strong interaction between specific particles. The latter measurement is often difficult to access by other means and is the focus of this paper (for recent studies see ref 21, 22)."



"Figure 4: The singlet s-wave scattering length (f 0) and the effective range (d 0) for the antiproton-antiproton interaction plotted together with the s-wave scattering parameters for other nucleon-nucleon interactions. Here, statistical errors are represented by error bars, while the horizontal uncertainty for f 0 is smaller than the symbol size, and systematic errors are represented by the box. Errors on other measurements 27, 29 are on the order of a few percent, smaller than the symbol size. Figure 4 presents the first measurement of the antiproton-antiproton interaction, together with prior measurements for nucleon-nucleon interactions. Within errors, the f 0 and d 0 for the antiproton-antiproton interaction are consistent with their antiparticle counterparts — the ones for the proton-proton interaction. Our measurements provide parameterization input for describing the interaction among cold-trapped gases of antimatter ions, as in an ultra-cold environment, where s-wave scattering dominates and effective-range theory shows that the scattering length and effective range are parameters that suffice to describe elastic collisions 30. The result provides a quantitative verification of matter-antimatter symmetry in the important and ubiquitous context of the forces responsible for the binding of (anti)nuclei."

The article ***SEEMS*** reasonable and supported by their data. But let's think about their "logic" for a moment. They presuppose that if -p-p, antiproton-antiproton, ***SCATTER*** behave as pp, proton-proton, any nuclear adhesion / antinuclear strong-force ***MUST BEHAVE SIMILARLY***. This ***assumes*** the strong-force must be ***positively***-correlated with electromagnetic repulsion. Figure 4 ***ONLY*** shows that -p-p scatter as pp do; ***they scatter similarly; whoopty freakin' do.***

I challenge the conventional physics community to ***PROVE*** -d, antideuterium, is ***just as stable*** as d, deuterium. ***AND***, to ***PROVE*** that -^{4}He, antihelium, is ***just as stable*** as ^{4}He.

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