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Persistent Quark Confinement in RHIC JOHN STACHURSKI, Frontier Science R&D — The purposes of this paper are: 1) to review the problem of quark confinement and/or the existence of free quarks outside of nucleons during the collision of gold ions in RHIC [1]; and 2) to propose a new approach to the results. The primary theories which guided the RHIC project were the lattice QCD and the theory of asymptotic freedom. The theories predicted the production of a deconfined gaseous plasma. A perfect liquid was obtained instead. It is possible to consider quarks as a material phase in equilibrium with another internal phase (gluons?). Deconfining a quark from its environment would destroy it. Destruction of quarks may take place during the first phase of the relativistic collision of gold ions. For a very short time components of the ions may be broken into tiny fragments, while a huge amount of kinetic energy is converted to matter. The primitive matter and gluons radiate from the fireball. This matter may be more elementary than quarks, and also undetectable, until it hadronizes. The primeval properties of such most elementary particles will be postulated. [1] Nuclear Physics A 757 (2005) 1 - 283

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