
April APS Meeting
News Conferences

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At the meeting, as of April 16, the pressroom phone number will be 813-314-6444
Program website: meetings.aps.org/Meeting/APR05/Content/65

AN EMBARGO EXTENDING TO THE TIME OF THE PRESS CONFERENCES APPLIES TO THE FOLLOWING INFORMATION

April 4, 2005----The following press events will take place at the April Meeting of the American Physical Society (APS) in Tampa, Florida at the Marriott Hotel. The pressroom will be in room 2 while press conferences will be held in room 3.

*****Look for a forthcoming embargoed Brookhaven press release concerning the important announcement RHIC scientists will make at our 9 AM Monday press conference. *****

Press Conference, Sunday, April 17, 11:30 AM

MINI-SUPERNOVAS ON EARTH

Where do gold atoms come from? Physicists believe gold and other heavy elements were built from lighter atoms inside star explosions billions of years ago. To study this process here on Earth, scientists at the National Superconducting Cyclotron (NCSL) at Michigan State University try to reproduced the conditions inside supernovas with energetic nuclear collisions. Hendrik Schatz (schatz@ncsl.msu.edu , 517-333-6397) will report on the results of a recent experiment at NCSL in which several specimens of the rare nucleus nickel-78 were produced. Ni-78 is a "doubly magic" nucleus in that it has closed neutron and proton shells; it is "noble" in a nuclear sense in the way that a noble gas atom is noble in the chemical sense because of its completely filled electron shell. The manufacture of Ni-78 in stellar explosions is considered a crucial step in the buildup of heavy nuclei. (Paper W0.1)

Press Conference, Sunday, 2:30 PM

LOOPS, STRINGS, BLACK HOLES, AND THE BIG BANG

Separate insights about black holes and the big bang are being offered by two major "unified" theories, which attempt to reconcile general relativity, the theory of the universe at large scales, and quantum mechanics, the theory of nature at the atomic scale. Abhay Ashtekar, the director of Penn State's Institute for Gravitational Physics and Geometry (T10.1, ashtekar@gravity.psu.edu), will discuss one approach, called loop quantum gravity, which assumes fundamentally that space-time at the smallest scales is discontinuous and chunky. In this picture, the fabric of space-time is woven by quantum threads. Ashtekar will describe loop quantum gravity's insights into the big bang and black holes, including a new, detailed resolution to the so-called "information-loss paradox" made popular by Stephen Hawking in his work on black holes. On the other hand, string theory starts off by assuming spacetime is smooth and continuous. It posits that the fundamental particles in our universe are made up of vibrating objects generally called "strings." Don Marolf of the University of California at Santa Barbara (marolf@physics.ucsb.edu), who is co-chairing a session on strings (K1), will discuss the theory's approach to the big bang and black holes.

Press Conference, Monday, April 18, 9 AM

EVIDENCE FOR A NEW TYPE OF NUCLEAR MATTER

At the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Lab (BNL), two beams of gold atoms are smashed together, the goal being to recreate the conditions thought to have prevailed in the universe only a few microseconds after the big bang, so that novel forms of nuclear matter can be studied. At this press conference, RHIC scientists will sum up all they have learned from several years of observing the world's most energetic collisions of atomic nuclei. The four experimental groups operating at RHIC will present a consolidated, surprising, exciting new interpretation of their data. Speakers will include: Dennis Kovar, Associate Director, Office of Nuclear Physics, U.S. Department of Energy's Office of Science; Sam Aronson, Associate Laboratory Director for High Energy and Nuclear Physics, Brookhaven National Laboratory. Also on hand to discuss RHIC results and implications will be: Praveen Chaudhari, Director, Brookhaven National Laboratory; representatives of the four experimental collaborations at the Relativistic Heavy Ion Collider; and several theoretical physicists. (Papers R2.1 and R2.2)

Press Conference, Monday, 1 PM

DEEP2 GALAXY SURVEY

Like the Sloan and 2dF sky surveys, the DEEP2 project systematically maps galaxies over part of the sky. However, while Sloan and 2dF study objects with redshifts less than 0.2 (equivalent to a lookback time of about 2 or 3 billion years), DEEP2 has used one of the largest telescopes in the world to measure the positions of 40,000 galaxies at a typical redshift of 1 (corresponding to a time of about 6 to 9 billion years ago), in order to study the evolution of both galaxies and the universe itself. Jeffrey Newman (Lawrence Berkeley National Lab) will report on this new catalog of galaxies, the first part of which has now been publicly released. The evolution of galaxy clustering to this distant epoch will soon be used to explore the nature of dark energy. He will also report on efforts to determine whether the fine structure constant, which sets the absolute scale of the electromagnetic force (which holds atoms together, among other things), changes over cosmic timescales. Paper F1.1 (DEEP is a joint project of UC Berkeley and UC Santa Cruz.)

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