

DNP



NEWSLETTER No. 84

4 NOVEMBER 1990

**TO: MEMBERS OF THE DIVISION OF NUCLEAR PHYSICS, APS
FROM: VIRGINIA R. BROWN, LLNL, SECRETARY-TREASURER, DNP**

ACCOMPANYING THIS NEWSLETTER :

- A ballot and brief biographies of the candidates.



FUTURE DEADLINES

- 21 Dec. 1990 - Invited Abstracts to G. M. Crawley
- 11 Jan. 1991 - Last day for abstracts to N.Y. APS Office for Spring APS Meeting
- 18 Jan. 1991 - DNP Election Ballots
- 1 April 1991 - APS Fellowship Nominations (see item 7)

1. ELECTION OF OFFICERS AND EXECUTIVE COMMITTEE FOR 1991

The terms of the officers and three members of the present Executive Committee will expire at the close of the regular meeting of the Division to be held in conjunction with the APS general meeting in Washington, D.C., 22-25 April 1991. Gerard M. Crawley will become Chairman and John Cameron, Noemie Benczer-Koller, and Peter D. Parker will remain members of the Executive Committee. A Vice-Chairman, Secretary-Treasurer, and three members of the Executive Committee are to be elected before April 1991.

This year's Nominating Committee consists of R. E. Tribble (Chairperson), P. D. Barnes, G. T. Garvey and J. A. Harvey. The candidates selected by the Nominating Committee are as follows:

Vice-Chairperson, (one position)

Wick Haxton, Univ. of Wash.
Ernest J. Moniz, MIT

Secretary-Treasurer

Virginia R. Brown, LLNL

Executive Committee (three positions)

Richard F. Casten, BNL
David J. Ernst, Texas A&M Univ.
Stuart J. Freedman, Univ. of
Chicago and Argonne
Bernhard A. Mecking, CEBAF
Lee L. Riedinger, Univ. of Tennessee
Johanna Stachel, Stony Brook

The enclosed ballot must be signed and may be returned in the enclosed envelope with your name and address printed or signed legibly in the upper left hand corner of the envelope. It must be received by *Virginia R. Brown* on or before **18 January 1991**, in order to be counted.

If you are a DNP member, please exercise your right to vote for candidates in the upcoming DNP elections. Typically only about 900 election ballots are mailed in by members. **Your vote counts, and it is important!**

2. DNP MEMBERSHIP

If you had to borrow this newsletter from a colleague, it may be that you are one of the former members, who did not pay the \$5 dues to maintain your DNP membership on the last APS dues bill. If this is the case, you will no longer enjoy DNP membership privileges, which include receiving the four newsletters per year. Besides the news about DNP / APS meetings, future conferences, fellowships, prizes and awards, budgets, isotope supplies, etc., the newsletter includes ballots for nominating invited talks, nominating and electing officers, and providing suggestions for other DNP and APS committee members. Only members can vote for or be candidates for officers of the DNP.

The size of the DNP membership is a significant factor in how well the DNP can represent the interests of the nuclear physics community. A recent example of this representation was the role of the DNP in organizing "town meetings" for input from the community into the "Long Range Plan" for nuclear physics, provided by NSAC and requested by the DOE and NSF. The interests of the nuclear physics community are also represented by the DNP in the APS. The number of APS Councilors per Division depends on the size of the subunit membership in the new APS constitution and by-laws.

The DNP membership is currently about 3/4 of its previous value. You may want to encourage your graduate students and colleagues to join, or you may want to reinstate your own DNP membership, to do so get in touch with the membership department at the New York office of the APS.

3. REPORT ON THE DNP FALL MEETING AT THE UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, IL, 24-27 OCTOBER 1990

A highly successful DNP meeting was held at the University of Illinois at Urbana-Champaign. The registered attendance was ~478, the third best attendance of a DNP meeting in recent years. The best attendance was 628 in Santa Fe in 1988 followed by 529 for Asilomar in 1989. On behalf of the DNP membership, the Executive Committee is pleased to acknowledge the hard work and carefully considered planning of the Local Committee consisting of C. N. Papanicolas (Chair), G. A. Baym, R. A. Eisenstein, D. W. Hertzog, A. M. Nathan, and V. R. Pandharipande. **A very "special thanks" is due to the dedicated, conscientious, and highly organized efforts of the Conference Coordinator, Ms. Penny Sigler.**

The meeting consisted of five sessions of invited papers and 193 contributed abstracts organized into 18 sessions. Among the well-attended highlights were the five invited sessions "Nuclear Astrophysics", "New Ideas on Old Problems", Exploring the Nucleus with Heavy Ions", "Physics and Detectors at RHIC", and "Electromagnetic Structure of Baryons". Among the other well-attended highlights was the Plenary Session, which focused on "Nuclear Physics in Society".

The Plenary Session and Special Colloquium, R. A. Eisenstein

On Thursday afternoon, 25 October, the DNP Plenary session was held in the Foellinger Auditorium

at the University of Illinois. DNP Plenary Sessions originated at the Vancouver meeting in 1986, and since then it has been devoted to discussions of the future of our field and the "Five Year Plan" for implementing it. With the Plan now in place, it seemed appropriate to focus on other matters.

This year the Plenary Session was devoted to a discussion of "Nuclear Physics in Society". Three talks were presented by leading experts in their fields. Some of the political and technical problems associated with nuclear disarmament, and the positive impact that nuclear physicists can have in helping on these issues, were discussed by S. Drell (Stanford). Recent advances in the use of particle accelerators for radiation therapy were discussed by P. DeLuca (Wisconsin), with special emphasis on the Loma Linda accelerator facility for patient treatment. Finally, H. Bethe discussed the importance of nuclear power for the U.S. economy and ecology. He described briefly the possible use of a new, smaller (600 MW) light-water reactor (that is under development by the DOE and commercial firms in the U.S.) as the basis for a rejuvenated nuclear power base in this country.

After the Plenary session, a special colloquium was held as a joint effort of the Physics Department and the DNP. The colloquium was one of a series that is this year celebrating the 100th anniversary of the creation of the Illinois Physics Department. The topic of the talk was "Solar Neutrinos"; it was delivered by J. Bahcall (Institute for Advanced Study, Princeton). Recent experimental results on the measurement of the solar neutrino flux were discussed in the light of modern theoretical models for the relevant solar processes and elementary particle neutrino physics.

These sessions were attended by over 800 people from the DNP meeting, the physics department, and the local community.

Workshops

The Workshop on the "Effects of Correlations in Nuclei", and the Workshop on "Opportunities with Low-Energy Antiprotons", were held on Wednesday the 24th of October. The number of registered attendees was 88 at the "Correlations" workshop and 53 at the "Antiproton" workshop. The number of students registered at the meeting was 126, and although they are not counted, they participated in the workshops as well. Registrees were free to move freely between the two workshops.

"Effects of Correlation in Nuclei", V. R. Pandharipande

The primary focus of this Workshop was on effects of correlations between nucleons in the nucleus as observed in various experiments including electron- and nucleon-nucleus scattering, transfer, knockout and charge-exchange reactions, etc. The experiments used to deduce the absolute spectroscopic factors of single-particle states in ^{208}Pb , and to estimate the high momentum components in nuclear wave functions were discussed in detail. The Workshop was attended by over a hundred lively participants. The main speakers were C. Mahaux (Liege), G. J. Wagner (Tübingen), P.K.A. de Witt Huberts (NIKHEF), W. R. Gibbs (Los Alamos), J. Morgenstern (Saclay), and D. B. Day (Virginia), and the concluding panelists were W. Bertozzi (MIT), M. MacFarlane (Indiana), E. Moniz (MIT) and M. Strikman (Leningrad).

"Opportunities with Low-Energy Antiprotons", R. A. Eisenstein

The Antiproton Workshop was organized locally by a committee consisting of R. Eisenstein, D. Hertzog (Chair), and A. Nathan. The goal of the workshop was to focus on the diverse, multidisciplinary physics problems that can be uniquely addressed using beams of low-energy antiprotons. Because of the rapidly changing situation with respect to available facilities that are capable of this kind of work, the workshop was a timely one.

A total of nine talks were presented; they covered a wide range of interesting physics issues. The present experimental program and some future possibilities with very low energy antiprotons were discussed by M. Holzschneider (LANL) and G. Gabrielse (Harvard). Here the mechanisms for producing the antiprotons at low energy were briefly reviewed, and some of the experiments using them to test fundamental symmetries were discussed. The possible use of antiprotons for a precision test of CP Violation in the lambda hyperon system was described by G. Miller, and K. Seth showed recent high-quality data on the charmonium system taken in E-760 at the FNAL accumulator. The impact that antiproton studies at a high-resolution facility could have on meson spectroscopy was described by both N. Isgur and R. Landua. The emphasis here was on the prospects for observing glueball, exotic, and hybrid states. Data from the recent hyperon production experiments done at LEAR (PS185) were discussed by F. Tabakin. In a similar vein, S. Brodsky discussed other possible tests of QCD using low-energy antiprotons. Finally, F. Mills and D. Peaslee discussed the possibilities for further accelerator developments that some of the above experimental programs might demand. The workshop was well attended and the discussion was lively and interesting.

Banquet and Special Ceremony

The banquet, held on Friday evening at Urbana-Champaign in the Illini Union, was attended by 170 members and companions. Dinner was preceded by a reception in the South Lounge.

After dinner there was a special ceremony honoring W. W. Havens, Jr. on the occasion of his retirement as the Executive Secretary of the APS. J. B. Ball, the DNP Chair presented Havens with a framed certificate signed by the 1990 DNP Officers which reads as follows:

"The Division of Nuclear Physics of the American Physical Society presents this certificate of tribute to William W. Havens, Jr. in recognition of his pioneering studies of the interaction of neutrons with nuclei and in great appreciation of his many years of valuable and innovative contributions to the physics community as Executive Secretary of the American Physical Society. This citation is presented on the occasion of his retirement with the highest respect of his nuclear physics colleagues and friends".

Gary Mitchell from North Carolina State University spoke about Havens' nuclear physics research contributions. A summary of Mitchell's remarks follows:

W. W. Havens, Jr. along with James Rainwater, performed truly pioneering measurements on neutron resonances at Columbia in the 1940's. After leading the construction of the Nevis Synrocyclotron, they performed neutron resonances studies for a generation. In performing a very extensive series of measurements and developing improved measurement techniques, they set the standard for neutron resonance studies. In addition to the enormous practical value of these measurements, their results were of major theoretical significance. Their work culminated in the confirmation of the predictions of the Dyson-Wigner Random Matrix Theory -- that the eigenvalues would display both short and long range correlation properties (level repulsion and spectral rigidity).

After dinner entertainment at the banquet was provided by a local musical group with the colorful name "Medicare 7, 8, or 9". "Medicare" in the title refers to the fact that most of the band members are well past retirement age, and "7, 8, or 9" refers to the uncertainty in the expectation value of the number operator when applied to the band on any given night. The group played a most pleasing selection of dixieland and "old standbys", and the evening concluded on a "high note".

4. **SPRING APS MEETING, WASHINGTON, D.C., 22-25 APRIL 1991**

The Division of Nuclear Physics will organize five sessions of invited papers for the Spring meeting. Speakers for three of these sessions will be selected by vote of the Program Committee from nominations which were submitted to G. M. Crawley by the 2 November deadline.

Speakers for the other two sessions are being arranged by subcommittees on topics selected at the Urbana-Champaign Program Committee meeting. One session on "Superdeformed Deformation and Symmetries in Nuclei" is being organized by G. J. Wozniak, LBL. A second session on "Nuclear Reactions with Real Photons" is being organized by P. Stoler, Rensselaer Polytechnic Institute.

In addition to the usual five invited sessions, the DNP Program Committee is participating in three or four cooperative or joint sessions with other APS subunits participating in the spring meeting. One session on "Composite Nature of Nucleons, Nuclei, and Baryon Spin" is a joint session with the Division of Particle and Fields (DPF); the DNP organizers are R. J. Holt, Argonne and C. Papanicolas, Univ. of Illinois. Another joint session is with the Division of Physics of Beams; the DNP organizer is M. Berz, Michigan State Univ. A third session is joint with the Few Body Topical Group; the DNP organizer is B. F. Gibson. This session is on "Cluster Physics". The final cooperative session, which is still tentative, is joint with the Division of Astrophysics (DA); the DNP organizer is R. L. McGrath.

5. **DNP FALL MEETING AT MICHIGAN STATE UNIVERSITY IN E. LANSING, MI, 23-26 October 1991**

The annual meeting of the Division of Nuclear Physics will be held on 24-26 October 1991, at Michigan State University in East Lansing, Michigan. The hosts for the meeting and its associated workshops will be the National Superconducting Cyclotron Laboratory, the Department of Physics and Astronomy, and Michigan State University. All sessions of the meeting will be held in the Kellogg Center, an on-campus conference center and hotel.

Michigan State University has over 43,000 students on its beautiful campus in central-lower Michigan. Founded as a pioneer land-grant institution in 1855, MSU has expanded its early concentration on agricultural science to now include more than 200 programs of undergraduate and graduate study, and has over 2000 faculty members in 14 colleges. Among the many attractions on campus are the Wharton Center for Performing Arts, the Beal Botanical Gardens, the

Kresge Art Center, the MSU Museum, the Abrams Planetarium, and many acres of natural area.

Two workshops are planned for October 23. The planned topics are "Intensity Interferometry in Nuclear Reactions," organized by George Bertsch and Konrad Gelbke; and "Physics with Radioactive Ion Beams" organized by David Morrissey and Brad Sherrill. A third workshop is being considered for October 27, on the topic, "Nonlinear Dynamics in Nuclear and Accelerator Physics", organized by Wolfgang Bauer, Martin Berz, and Mel Month.

Members of the Local Committee are Sam M. Austin, Walter Benenson, George Bertsch, Gary M. Crawley, and Jerry A. Nolen (Chairperson); the Local Conference Coordinator will be Mrs. Shari Conroy.

6. **FUTURE DNP FALL MEETINGS**

The fall meetings for the next three years are as follows:

| | | |
|------|---------------|----------------|
| 1991 | October 23-26 | E. Lansing, MI |
| 1992 | October 14-17 | Santa Fe, NM |
| 1993 | October | Asilomar, CA |

The dates include the Wednesday "workshops", which are held in conjunction with the DNP fall meetings. Holding "workshops" at the DNP fall meetings has become a tradition which began with the 1986 Vancouver meeting. All meeting attendees are welcome and encouraged to come. It has been the intention of the DNP Executive Committees that these "workshops" should have broad appeal, with introductory pedagogical talks for the benefit of those who have come primarily for the DNP meeting but want to take the opportunity to learn about a field of specialty of the local community.

Members interested in hosting the 1994 DNP meeting at their institution should write to J. B. Ball before the 1991 Spring meeting.

7. **NOMINATIONS FOR APS FELLOWSHIP**

The procedure for the election of a Member to Fellowship is outlined in the Membership Directory of the APS under "Constitution and Bylaws." A nomination form, which cites the principal contributions of the candidates to physics, should be prepared and signed by two members of the society. The total number of members who could be elected to Fellowship in a given year is one half of one percent of the total APS membership.

The DNP deadline is normally 1 April. Nomination forms are available from Ms. Evelyn Bernstein (The

American Physical Society, 335 East 45th Street, New York, NY 10017). Completed forms should be returned to Dr. N. R. Werthamer at the same address.

The 1991 DNP Fellowship Committee is comprised of R. A. Eisenstein, Chm., F. E. Bertrand, Jr., and H. E. Jackson. The Fellowship Committee reviews the nominations for APS fellowship referred to the DNP and recommends a slate of candidates which is forwarded to the DNP Executive Committee and then to APS Council for approval.

It is particularly important for nominators to ensure that the cases which they prepare for the Fellowship Committee are well documented. In addition to that requested on the nomination form, information such as lists of invited talks, awards, professional activities, committee services, and participation in organization of conferences is very helpful. **Inclusion of a complete publication list is highly recommended.**

The DNP has adopted the following *Fellowship Criteria Guidelines*: To be chosen as a fellow an APS member should have a record of excellence in research that has been sustained several years and have done at least one major, original work that has influenced his/her speciality in a distinctive way.

The list of APS Fellows (by APS subunit) elected in a given year is published in the February Bulletin the following year. The names of newly elected DNP Fellows are published in the newsletter, and the awards are presented at the DNP business meeting of the Spring APS meeting.

8. "PHYSICS NEWS IN 1990"

Each year the AIP prepares a report entitled "Physics News", for the current year, which is then published in *Physic Today* (January Issue of the following year). Since 1987, the procedures by which the DNP solicits and organizes articles have been changed to ensure a more complete and representative description of the new developments in nuclear physics. For this purpose a committee chaired by the Vice-Chairman of the DNP is formed. This year's committee consists of G. M. Crawley (Chair), C. B. Dover, J. B. McClelland, and P. J. Siemens.

The article prepared this year for "Physics News" covers three topics: "The Disappearance of Flow in Heavy-Ion Collisions" (prepared by G. Westfall), "The Neutrino Process in Supernovae" (prepared by W. Haxton), and "Symmetry Breaking in Chaotic Nuclear Systems" (prepared by D. Bowman and G. Mitchell). The text was reviewed and slightly edited by the Committee and submitted to P. Schewe at Physics News by the deadline of 1 August 1990.

9. NATIONAL INSTITUTE FOR NUCLEAR THEORY

Since the last news item, two programs (Quarks in Nuclei and Nuclear Astrophysics) have been completed and one on "Hard QCD Probes of Dense Nuclear Matter" is under way.

A recent meeting of the National Advisory Committee determined programs through 1992. The programs and their organizers are:

- 1) February 15-June 15, 1991: "Electromagnetic Interactions and the Few Nucleon System" is being organized by Jim Friar (LANL), Ben Gibson (LANL) and Wick Haxton (Univ of Washington);
- 2) June 16-Sept. 15, 1991: "Nucleons and Nucleon Structure" is being organized by Nathan Isgur (CEBAF), Gabriel Karl (Univ. of Guelph) and Gerald Miller (Univ. of Washington);
- 3) Fall 1991: "Mesons and Fields in Nuclei" is being organized by Mikkel B. Johnson (LANL) and Brian D. Serot (Indiana University);
- 4) Spring 1992: "Fundamental Symmetries in Nuclei" will be organized by Bary R. Holstein (Univ. of Massachusetts at Amherst);
- 5) Summer 1992: "Strangeness in Hadrons and Nuclei" will be organized by Carl B. Dover (BNL);
- 6) Fall 1992: "Microscopic Nuclear Structure Theory" will be organized by Bruce Barrett (Univ. of Arizona) and James P. Vary (Iowa State Univ.).

If you are interested in participating in any of these programs, please contact the organizers or Ernest M. Henley at the Univ. of Washington (e-mail: henley@uwaphast).

The Institute periodically publishes a newsletter. One has appeared and a second one will probably appear towards the beginning of 1991. To receive these newsletters, sign up to become an Institute Affiliate by sending your name and address to Ernest M. Henley, Inst. for Nuclear Theory, HN-12, Univ. of Washington, Seattle, WA 98195 or e-mail as above.

10. NUCLEAR SCIENCE ADVISORY COMMITTEE (NSAC) NEWS, Jim Ball

As Chair of the DNP, Jim Ball is now automatically an ex-officio member of NSAC. As such he has the responsibility to keep the DNP informed as to the business of NSAC. This is done in reports to the Executive Committee and the DNP membership at DNP/APS meetings and in the newsletter. The reports for the last two NSAC meetings follow.

The 1990 Nuclear Science Advisory Committee met for the second time this year on *June 4*. This meeting

was held at the *CEBAF Laboratory in Newport News, VA*. The committee was given an in-depth briefing on the status of the accelerator construction project and on the plans for an initial complement of experimental equipment. A specific request was made by the agencies for the committee "to evaluate and provide advice on the merit of the CEBAF equipment plan within the scientific priorities of the field as defined in the NSAC Long Range Plan of December, 1989." It was also stated in this charge that: "The funding agencies will provide the committee with an understanding of the financial implications of a decision to fund the proposed equipment, and ask NSAC to take this into consideration, as well." In response to the briefings and additional material provided, the committee found the equipment plan to be well matched to the capabilities of the new accelerator and to the scientific opportunities identified in the Long Range Plan. The committee recommended that the agencies adopt the plan as appropriate to a long-term, first-class research program at CEBAF.

The CEBAF estimate of the total funds needed to realize this initial equipment plan is about \$72 million in FY89 dollars. This is \$30M more than available from project funds. With approximately \$5M anticipated from foreign contributions, this leaves a shortfall of \$25M. In response to NSAC concerns about the need to maintain flexibility in the nuclear physics equipment budget to fund a reasonable number of new initiatives that might be anticipated from other groups over the next few years, Dave Hendrie (DOE) indicated that, with reasonable expectations of the budget, about \$6M of additional equipment funding could be provided over the FY91 to FY93 time frame. This would reduce the funding shortfall to \$19M. NSAC, noting that an additional \$19M of equipment funding over the next five years would unacceptably limit opportunities for other laboratory and university groups (assuming essentially constant funding), urged that the agencies seek additional funds for the nuclear physics program in order to realize the proposed equipment plan in a timely fashion.

At this meeting the committee also heard a brief report on plans for the review of the three low-energy heavy-ion facilities from Peter Parker, chairman of the review subcommittee. Members of the subcommittee are; Parker (Yale), Konrad Gelbke (MSU), John McClelland (LASL), Steve Koonin (Caltech), John Huizinga (Rochester), Bob Pollock (Indiana), Gene Sprouse (Stony Brook), and Peter Twin (Liverpool). The first four are also members of NSAC. In its formal charge to the subcommittee, NSAC chose to pass on the charge exactly as it had been received from the agencies (see report in preceding Newsletter). The committee was also informed that site visits of the subcommittee to the three facilities had been set tentatively for early

August, and that the report of the subcommittee would be available to NSAC by September 1.

NSAC met again on *September 7-8, in Washington, D.C.*, to receive and review the report from the Heavy-Ion Facilities Subcommittee on the matter of potential closure of one of the three low-energy heavy-ion facilities. The summary findings of the report were:

- The subcommittee found no decrease in beam demands or lack of excitement in the area of physics addressed by the three low-energy heavy-ion facilities.
- The subcommittee recommends that NSAC consider that optimal action with respect to facilities closure at this time would be to close none of the three.
- Closure of either ATLAS or of the 88-inch Cyclotron is unacceptable.
- If NSAC chooses to accept closure of one of the three facilities, it should recommend a strengthening of the operating support at the remaining low-energy heavy-ion facilities so that they can effectively handle the most competitive of the displaced programs.

Following the presentation of the report, statements were made by representatives from each of the three facilities, and by a large number of observers present at the meeting.

In responding to the presentations, NSAC made clear its respect for the judgement of the subcommittee, but found the report to be lacking in the expository material needed to make the findings transparent to the full committee and to the community. Because of the serious decisions that may flow from this report, NSAC voted to return the report to the subcommittee for appropriate expansion.

NSAC then agreed to treat the present report in the nature of an executive summary so that the committee might establish a sense of its position on the issues addressed by the report. It was the sense of the full committee that:

- NSAC will accept the subcommittee report and its findings after appropriate expansion, and transmit it to the agencies with its endorsement.
- NSAC strongly supports the main recommendation of the Subcommittee that optimum action with regards to facilities closure at this time is the continued operation of all three facilities, and recommends that

adequate new operating funds be found to make this possible.

Any formal action on the report was postponed until receipt of the expanded submission.

A meeting of NSAC was scheduled for October 24 for the purpose of acting on the final submission of the facilities subcommittee. Due to complications arising from this year's federal budgeting process, this meeting was cancelled. It has been tentatively reset for November 29, in Washington, D.C.

11. BUDGET REPORT FROM THE NUCLEAR SCIENCES RESOURCE COMMITTEE, L. L. Riedinger, Chairperson

The FY91 appropriations bills were finally completed after the overall budget resolution by the Congress in late October. The process had begun in late January when the president's requested budget included a 14% increase for the National Science Foundation to a level of \$2.38 billion, including an 11% increase for Research and Related Activities. The House had decreased this to a 12% overall increase, the Senate to 13%. But, the budget action in the fall resulted in further decrease to an 11% rise in the NSF budget. Unfortunately the Research portion of the budget was especially affected, as it receives only a 6% increase over FY90. It is not yet clear how this small increase will be distributed. The president's budget had programmed a 12% increase for the Mathematical and Physical Sciences, but only a 5% increase for the Physics part of this. One response could be that each of these numbers would be cut in half.

The President had requested in January a 14% increase for the Nuclear Physics budget within the Department of Energy. This was approved in both the House and Senate Energy and Water Appropriations bills, but was decreased in conference after the budget agreement. DOE General Science (including nuclear and high-energy physics) was hit with a \$50 million reduction in conference, which apparently translates to \$17 million for Nuclear Physics. This leaves Nuclear Physics with an FY91 budget of \$314 million, up approximately 8% from FY90. The president's request included \$65 million for continuing construction of CEBAF and \$15 million for initial construction of RHIC. It is not yet known how the \$17 million reduction will be distributed.

12. UPDATE ON THE SUPPLY OF STABLE ISOTOPES FROM THE NUCLEAR SCIENCES RESOURCE COMMITTEE, L. L. Riedinger, Chairperson

In recent months, Richard Meyer of the Department of Energy and John Fox of the National Science Foundation have conducted a survey of the uses of stable isotopes in the nuclear science community. This has resulted in further discussions between the DOE Office of Energy Research and the Office of Nuclear Energy on the availability and cost of enriched stable isotopes, either for sale or for loan. Apparently there will be no ongoing direct subsidy of the isotope program by Energy Research. Rather it will be the responsibility of each contract monitor in the DOE or NSF to consider the higher cost of stable isotopes when deciding on the funds necessary for each research group. It appears that a new policy on leases from the Research Materials Collection has been agreed upon. (There will no longer be loans, only leases). Effective October 1, 1990, for new leases, the annual charge for borrowing RMC isotopic material is \$4800 plus 1% of the value of the material. For existing loans that are converted to leases, the charges will be an annual extension fee of \$3200 plus 1% of the loan's value. This is more than the current charges but significantly less than that first rumored (1% above the prime interest rate charged annually) one year ago when the management of the program was shifted from Energy Research to Nuclear Energy within DOE.

In addition efforts are continuing to re-establish the target fabrication laboratory at Oak Ridge by moving it from X-10 to Y-12 and combining it with other aspects of the isotope operation. Concerning the cost and availability of stable isotopes for sale, one can expect higher costs but hopefully continuing availability as the program must operate in a "break-even" mode. The main worry here is the competition for the large industrial isotope contracts between the DOE enterprise and various organizations marketing enriched isotopes produced in the Soviet Union. If too many companies choose to buy the Soviet-produced material, the cost of isotopes for the small-quantity user could increase even more.

13. "ANNUAL REVIEWS OF NUCLEAR AND PARTICLE SCIENCE"

The Division has continued the agreement with Annual Reviews, Inc., which will enable DNP members to obtain copies of the "Annual Review of Nuclear and Particle Science" at a 30% discount when purchased through the DNP Secretary-Treasurer, Virginia R. Brown, Lawrence Livermore National Laboratory, P. O. Box 808, L-288, Livermore, CA 94550. **The prices will increase on 1 January 1991. The old prices apply on orders postmarked before midnight 31 December 1990; checks will be returned if they are postmarked beyond this date.**

1990 Prices: The retail price of Volume 40 (to be published December 1990) is \$53.00 USA and Canada/\$57.00 elsewhere. In what follows the price for U.S.A and Canada is before the slash; the price elsewhere follows the slash. For DNP members the price for Volume 40 is \$38/\$40. Volumes 38 and 39 are \$49/\$53 retail and \$35/\$38 for DNP members. Back issues of Vols. 12-37 are \$34/\$38 retail and \$24/\$27 for DNP members.

1991 Prices: Volume 40 is \$55/\$60 retail and \$39/\$42 for DNP members. Vols. 38-39 are \$51/\$56 retail and \$36/\$40 for DNP members. Vols. 12-37 are \$36/\$41 retail and \$26/\$29 for DNP members.

Other Annual Reviews are also available. Payment (payable to the Division of Nuclear Physics-APS) must accompany your order and must be in U.S. funds. California orders must add applicable sales tax. The order should include the address of the DNP member to whom the volume will be mailed (fourth class book rate). Books will be shipped directly from Annual Reviews, Inc.

14. "FEW BODY SYSTEMS"

APS members are invited to enter an individual subscription at a 50% reduced rate to the journal "Few-Body Systems" published by Springer Verlag. The Associated Editor, W. Plessas, has requested that DNP members be made aware of this offer. You can order directly from Springer-Verlag, 175 Fifth Avenue, New York, N. Y. 10010. Please be sure to mention that you are an APS member.

15. FUTURE CONFERENCES

Organizers of future conferences should contact the DNP Secretary-Treasurer if they wish their conferences listed in DNP newsletters.

"9th Nordic Meeting on Intermediate and High Energy Physics", Jan. 6-10, 1991, to be held in Graftavallen, Oviken, Sweden. [For further information contact: Inger Ericson, Conference Secretary, Uppsala University, Dept. of Radiation Sciences, Box 535, S-751, Uppsala, Sweden, phone: +46 18 18 38 48, fax: +46 18 10 85 42, bitnet: "gwiai @seudac21].

"Seventh Winter Workshop on Nuclear Dynamics", 27 Jan. - 2 Feb. 1991, to be held in Key West, Florida. [For further information contact: Joseph Kapusta, School of Physics and Astronomy, Univ. of Minnesota, Minneapolis, MN 55455, phone: (612) 624-0506, bitnet: "fvs6269@umnacvx"].

"International Conference on Spin and Isospin in Nuclear Interactions", 11-15 March 1991, to be held in Telluride

Colorado. [For further information contact: Scott W. Wissink, Indiana University Cyclotron Facility, 2401 Milo B. Sampson Lane, Bloomington, Indiana 47408, phone: (812) 855-9365, fax: (812) 855-6645, e-mail: "wissink@iucf"].

"IVth Conference on the Intersections between Particle and Nuclear Physics", May 23-29, 1991, to be held in Tucson, AZ. [For further information contact: Ms. Elaine Zukowski, Bldg. 510F, Brookhaven National Laboratory, Upton, NY 11973-5000, phone: (516) 282-3866, fax: (516) 282-5820, bitnet: "henp@bnldag"].

"National Summer School on Nuclear Physics", 16-28 June 1991, to be held in Madison, Wisconsin, USA. [For further information contact: Prof. Baha Balantekin, Dept. of Physics, University of Wisconsin, Madison, WI 53706].

"Real Time Computer Applications in Nuclear, Plasma and Particle Physics," June 24-28 1991, sponsored by the Nuclear and Plasma Sciences Society of the IEEE (preceded by a short course). [For further information contact: K. D. Mueller, KFA Julich, D-5170 Julich, W. Germany, bitnet: "mueller@djukfa52" or US contact: Richard Kouzes, Princeton University, phone: (609) 258-4343, email: "kouzes@pupcyc.princeton.edu"].

"1991 Gordon Research Conference on Nuclear Physics", July 22-26, 1991, at the Tilton School, Tilton, New Hampshire. [For further information contact: James P. Vary, Physics Dept., Iowa State University, Ames, IA 50011, phone: (515) 294-8894, fax: (515) 294-0689, bitnet: "jvary@alisuvax"].

"Ninth International Conference on Ultra-Relativistic Nucleus-Nucleus Collisions--Quark Matter 1991", 11-15 November 1991, to be held in Gatlinburg, TN, USA. [For further information contact: Dr. Frank Plasil, Oak Ridge National Laboratory, P.O. Box 2008, MS-6372, Oak Ridge, TN 37831, phone (615) 574-4711, fax (615) 576-2822, bitnet: "qm91@orph01"].

1991 DNP BIOGRAPHIES

VIRGINIA R. BROWN -- Senior Staff Scientist, Lawrence Livermore National Laboratory, 1964-present; B.S. Northeastern University 1957; Ph.D. McGill University, 1964; Post Doctoral Research Appointment, Yale University, 1963-64; Post Doctoral Fellowship LLNL, 1965-67; Guest Research Position, IKP Jülich, West Germany, approximately 2 months per year, 1980-present; Adjunct Prof., Univ. of California at Davis; Fellow APS; Executive Committee, Division of Nuclear Physics, 1980-82; Economic Concerns Committee, APS DNP 1973-77; Secretary-Treasurer, DNP 1986-present. Research-theoretical nuclear physics: Neutron and proton (isospin) nuclear structure contributions to various transitions; comparison to hadronic, weak and EM probes. Coupled-channels effects in inelastic scattering and charge exchange. The NN system in the presence of weak and electromagnetic fields.

RICHARD F. CASTEN -- Senior Scientist, Group Leader, Neutron Nuclear Structure Group, Brookhaven National Laboratory (1981-present). Physicist, BNL, 1976-82; Associate Physicist, BNL, 1973-76; Assistant Physicist, BNL, 1971-73; Research Associate, Los Alamos National Laboratory, 1969-71; Research Associate, Niels Bohr Institute, 1967-69; Ph.D., Yale University, 1967. Fellow APS; Fellow AAAS. American Chemical Society, European Physical Society, Sigma Xi. Humboldt Prize (Senior U.S. Scientist Award), 1983; AEC Postdoctoral Fellowship, 1967; Danforth Foundation Fellowship, 1963-67. Guest Faculty Member, State University of New York at Stony Brook, 1975-present; University of Koln, Koln, Germany, 1984-present; Drexel University, 1987. Service and Committees: NSAC, Long Range Plan Working Group, 1989; National Academy of Sciences- National Research Council Panel on Basic Nuclear Data Compilations, 1989-91; Chairman, North American Steering Committee for a Radioactive Beam Facility, 1990-91; Associate Editor, Phys. Rev. C, 1987-90; Editorial Board, Int. J. Mod. Phys. A and J. Mod. Phys. Lett. A, 1986-present; BNL Council, 1986-89; various BNL committees, 1983-present; numerous program and advisory committees for international conferences; Organizing Committee, International Conference on Contemporary Topics in Nuclear Structure Physics, Cocoyoc, June, 1988; Executive Committee EMIEF, 1984-87; Panel on Future Directions in Nuclear Physics, Boulder, 1979; Executive Committee for UNISOR, ORNL, 1981. Research interests: nuclear structure, collectivity, symmetries, proton-neutron interactions, r-process, experimental and theoretical.

DAVID J. ERNST -- Professor, Texas A&M University. Ph.D. in Physics, Massachusetts Institute of Technology, 1970. Assistant Professor, 1970-71; Professor, 1971-72; Centro de Investigacion y des Estudios Avanzados del Instituto Politecnico Nacional. Research Associate Instructor, 1972-75; Case Western Reserve University. Visiting Assistant Professor, 1979-80; University of Washington. Assistant Professor 1975-80; Associate Professor, 1980-85; Professor, 1985-present; Associate

Director, Center for Theoretical Physics, 1988-present; Interim Director, International Institute for Theoretical Physics, 1990-present; Texas A&M University. Consultant, 1974-present; Los Alamos National Laboratory. Consultant, 1983-present; Oak Ridge National Laboratory. Program Committee, Nuclear Physics Division, 1983-85; American Physical Society. Program Advisory Committee, Chairman EPICS and Pion Subcommittees, 1985-89; Long Range Plan Working Group, Co-Chairman Pion Working Group, 1989; Chairman Elect (1991) and Chairman (1992) of the Board of Directors of the LAMPF Users Group Incorporated; Los Alamos Meson Physics Facility. Deutsche Forschungsgemeinschaft Professor, 1988-present; University of Frankfurt. Fellow, American Physical Society. Member, Sigma Xi. Research Interests: Intermediate energy reaction theory; pion-nucleon and pion-nucleus reactions; delta propagation in nuclei; two-photon lepton-pair and meson production in ultra-relativistic heavy-ion collisions.

STUART JAY FREEDMAN -- Prof., Enrico Fermi Institute and Dept. of Physics, The University of Chicago, and Sr. Scientist, Argonne National Laboratory, 1987- present; Scientist, Argonne National Laboratory, 1982-1987; Asst. Prof., Stanford University, 1976-1982; Lecturer, Princeton University, 1975-1976; Instructor, Princeton University, 1972-1975; PhD, Physics, University of California, Berkeley, 1972; Fellow APS; Sloan Fellow 1980-1984; Associate Divisional Editor Phys. Rev. Lett., 1986-1989. Research interests: Fundamental interactions and symmetries, particle searches, weak interactions, nuclear astrophysics.

WICK HAXTON -- Professor of Physics, Univ. of Washington (1987-present); Assoc. Professor, UW (1984-87); Staff Member (1983-85), J. R. Oppenheimer Fellow (1979-83), and Research Associate (1977-79), Los Alamos National Laboratory; Assist. Professor, Purdue Univ. (1980-81); Research Associate, Univ. Mainz (1975-76). Ph.D., Stanford, 1976. Service Committees: DNP Executive Committee (1989-present), Nuclear Science Resources Committee (1987-present), Nominating Committee (1989), Bonner Prize Committee (1987-89), Physics News Committee (1988), and Program Committee (1982-84); Member-at-large, Physics Section Committee, AAAS (1990-present); Board of Directors, LAMPF (1988-present); Panel Member, Astronomy and Astrophysics Survey (1989-present); NSAC Theory Subcommittee (1987-88); NSF Theoretical Physics Review Committee (1987). Advisory Committees: Los Alamos Theory Division (1987-present), TUNL (1987-present), IUCF and Indiana Nuclear Theory Center (1988- present), NSERC Grant Selection (1989-present) and Sudbury Neutrino Observatory (1988), LAMPF (1984-87) (chair Neutrino/Electroweak Subcommittees, 1986-87). Co-organizer, 1990 Summer School in Nuclear Physics and 1990 INT Nuclear Astrophysics Program. Editorial Board, Journal and

Letters, Modern Physics A. Fellow, APS and AAAS.
Research interests: nuclear structure; weak and electromagnetic interactions in nuclei; symmetry tests; nuclear astrophysics; many-body techniques.

BERNHARD A. MECKING -- Senior Scientist at the Continuous Electron Beam Accelerator Facility (1985 - present); Physics diploma, University of Mainz (1967); Ph.D. Physics, University of Bonn (1972); Group Leader at Bonn 500 MeV Synchrotron (1973-1985); Visiting Scientist at Stanford Linear Accelerator Center (1974, 1977, 1979, 1983); Comites des Experiences, Saclay Linear Accelerator (1980-1984); Heisenberg Foundation fellow (1981-1985); MIT Bates Program Advisory Committee (1986-1990); NSAC Subcommittee on Instrumentation (1988); LAMPF Program Advisory Committee (1989-present). Research interests: experimental nuclear physics, photon and electron induced nuclear processes, detection of multi-particle reactions.

ERNEST J. MONIZ -- Professor of Physics, Massachusetts Institute of Technology and Director, Bates Linear Accelerator Center (1983-present); Associate Professor (1977-83) and Assistant Professor (1973-77), M.I.T.; Visiting Staff Member, Los Alamos (1976); Research Associate, Saclay and University of Pennsylvania (1971-73). Ph.D., Theoretical Physics, Stanford University (1971); B.S., Boston College (1966). NSF Postdoctoral Fellow (1971-72). Program Advisory Committees: Bates (1979-82); IUCF (1980-83); CEBAF (1987-89); Mainz (1989-). Board of Directors, LAMPF User Group (1980-82); CEBAF National Advisory Board (1985-88). APS Study Group on Nuclear Fuel Cycles and Waste Management (1976-78). APS Division of Nuclear Physics: Contacts with the Press Committee (1983-84); Nominating Committee (1985-86); Executive Committee (1988-90). Physical Review Letters Review Panel (1989-90). Editorial Board, MIT Press (1978-81). Advisory Board, Center for Technology, Policy, and Industrial Development (1986-). Coordinator, Program on Nuclear Chromodynamics (1985) and Advisory Board Member (1987-90), Santa Barbara Institute for Theoretical Physics. Correspondent, Comments in Nuclear and Particle Physics (1985-). Nuclear Science Advisory Committee (1989-present). Fellow: AAAS, APS, Humboldt Foundation. Research in theoretical nuclear physics: mesons and quarks in nuclear forces, structure and reactions; nuclear physics with electromagnetic probes.

LEE L. RIEDINGER -- Professor of Physics, The University of Tennessee 1971-present; Ph.D. Vanderbilt University. 1968; NSF Postdoctoral Fellow at Niels Bohr Institute, Copenhagen, 1968-69; Research Associate Notre Dame Tandem Accelerator Laboratory. 1969-71; sabbatical year at Niels Bohr Institute 1978-79; Science Advisor to Senator Howard Baker 1983-84; chairman of Gordon Research Conference on Nuclear Chemistry 1983; member of Program Advisory Committee for BNL

Tandem Accelerator 1981-84, BNL Reactor 1985-90, LBL 88-inch Cyclotron 1987-90; chairman of Users Group Executive Comm. for ORNL Holifield Accelerator 1981; chairman of UNISOR Executive Comm. 1981-82, 1984-87; member of APS Congressional Fellowship Comm. 1986-89; chairman of APS Division of Nuclear Physics Resources Comm. 1985-90; member of editorial board of Modern Physics Letters, 1987-90 and Journal of Physics G 1988-90; member, Nuclear Science Advisory Committee, 1990-93; Director Joint Institute for Heavy Ion Research, 1988-90; Director, The Univ. of Tennessee-ORNL Science Alliance Program, 1988-present; Research interests: experimental nuclear physics, high-spin states, heavy-ion induced reactions.

JOHANNA STACHEL -- Associate Professor of Physics, State University of New York at Stony Brook (1989-present); Assistant Professor (1985-1989) and Visiting Assistant Professor (1984-1989) SUNY Stony Brook; Research Associate (1983-1984) SUNY Stony Brook and (1979-1983) University of Mainz; Ph.D. rer. nat. (1982) University of Mainz, Diploma (B.S. equivalent, 1977) University of Mainz; Fellow of the Studienstiftung des Deutschen Volkes (1975-1982); Preis der Joh.Gutenberg Universiteat Mainz (1982); Feodor-Lynen-Fellow (1983-1985); A.P.Sloan Fellowship (1986-1990); Presidential Young Investigator (1988). Research Interests: Relativistic Heavy Ion Physics, Intermediate Energy Heavy Ion Reactions, Nuclear Structure.

