

Precision Measurement and Fundamental Constants Newsletter

A Topical Group of The American Physical Society. No. 18. November 1997

1998 Annual Meeting to be Held in Columbus, Ohio

As is our tradition, the Precision Measurement and Fundamental Constants Topical Group (TG) will hold its Annual Meeting in conjunction with the American Physical Society (APS) Spring Meeting, Saturday - Tuesday, April 18-21, 1998. The APS Spring Meeting will be held in Columbus, Ohio, and will be held together with the American Association of Physics Teachers.

Topical Group members and nonmembers (whom we hope will join) are invited to submit an abstract for a contributed paper to a TG contributed session for the 1998 Spring Meeting. Our TG is very active at the Spring Meeting and the abstract sorting categories will include many categories that fit in with PMFCTG members work. One way to have your paper designated for one of our sessions is to include it in the special instructions part of your electronic abstract page. Submitting abstracts to TG sessions is not only good for science but also helps to financially support TG activities such as sending students to meetings and funding educational outreach activities. The TG gets a share of any net income from the Spring Meeting, with the share based, in part, upon the number of TG Contributed Sessions.

The deadline for abstracts is January 16 (17:00 EST). For information on how to submit contributed papers consult the APS Web page [<http://www.aps.org>] or send an e-mail message to [abs-request@aps.org] and include the meeting ID "APR98" in the text.

After two years of very successful Focus Sessions, we are taking a breather this year. We will have regular contributed sessions, determined by the number of abstracts submitted, and Invited Sessions.

Our invited sessions will be held on Saturday and Sunday. On Saturday, we have a session which is sponsored jointly with the Division of Nuclear Physics and the Division of Particles and Fields, titled "Flavor and CP signals of Supersymmetry" and organized by Stuart Freedman. Also on Saturday is a session on "New Results in Precision Measurement and Fundamental Constants," organized by John Bollinger. On Sunday, we have a session sponsored jointly with the Few Body Topical Group titled "New Studies of Three-Body Systems," which includes reports of new studies in nuclear, atomic and molecular three-body systems. Colston Chandler organized this session.

This year, for the first time, the APS is experimenting with Special Plenary Sessions for a general physics audience featuring reputable speakers on topics of wide interest.. These will be held Saturday, Sunday and Monday, and could make the meeting more interesting to all APS members.

The meeting will be held at the Columbus Convention Center. Columbus, a city of 630,000, is located on the Scioto River near the geographic center of Ohio. It is the home of Ohio State University, and since its founding in 1812 has been the capital of Ohio. Among its attractions are The Center for Science and Industry, which houses more than 1,000 interactive exhibits; the Columbus Zoo, renowned for its reptiles; the Franklin Park Conservatory and Botanic Garden created in the style of London's Crystal Palace; Ohio Village, a reconstruction of a 19th century village, and the Columbus Museum of Art. +

Committee Announces Slate of Nominations for March 1998 Elections

The Nominating Committee presents the following slate of candidates for the 1998 elections:

For Vice-Chair (one position)

- Ronald Drever, California Institute of Technology
- Peter Mohr, National Institute of Standards and Technology, Gaithersburg, MD

For Secretary-treasurer (one position)

- Wayne Itano, National Institute of Standards and Technology, Boulder, CO
- Jonathan Sapirstein, Notre Dame University

For Executive Committee Member-At-Large (two positions)

- Ralph Conti, University of Michigan, Ann Arbor
- Steve Lamoreaux, Los Alamos National Laboratory
- Fredrick Raab, LIGO Project
- David Shiner, University of North Texas

Biographies and ballots will be distributed with the next newsletter.

Election Results

Executive Committee Members

The Executive Committee Members elected this year are:

Vice Chair:

Peter Bender (JILA & University of Colorado)

Members-at-Large:

Edward Fry (Texas A&M University)

Harold Metcalf (SUNY Stony Brook)

Full Roster of Officers and Executive Committee Members

Terms of office end at the close of the Spring Meeting of the year shown, at which time Vice Chair becomes Chair Elect; Chair Elect becomes Chair; and Chair becomes Past Chair.

Officers:

Chair: Daniel Heinzen, U. Texas at Austin (1998), e-mail: heinzen@utaphy.ph.utexas.edu

Chair Elect: Stephen R. Lundeen, Colorado State U.(1998), e-mail: lundeen@lamarcolostate.edu

Vice Chair: Peter Bender, JILA & University of Colorado, (1998), e-mail: pbender@jila.colorado.edu

Past Chair: Geoffrey Greene, Los Alamos National Laboratory (1998), e-mail: glg@lanl.gov

Secretary-Treasurer: Harvey Gould, Lawrence Berkeley National Laboratory (1998), e-mail: gould@lbl.gov

Members-at-Large:

John Bollinger, NIST (1998), e-mail: john.bollinger@nist.gov

Priscilla Cushman, U. Minnesota (1998), e-mail: PRISCA@mnhepl.hep.umn.edu

Edward Fry, Texas A&M University, (2000), e-mail: fry@phys.tamu.edu

Harold Metcalf, SUNY Stony Brook (2000), e-mail: hmetcalf@ccmail.sunysb.edu

Edwin R. Williams, NIST, Gaithersburg, MD (1999), e-mail: williams@eeel.nist.gov

Linda Young, Argonne National Laboratory (1999), e-mail: young@anph00.phy.anl.gov

Subcommittees**Program Committee**

Stephen Lundeen, Chair

John Bollinger

Stuart Freedman

Nominating Committee

Harold Metcalf, Chair

Stuart Freedman

Leo Holberg

Ronald Walsworth

Publications Committee

Harvey Gould, Chair

Fellowship Committee

Stephen Lundeen, Chair

Education Activity

Ed Williams, Chair

Francis Pipkin Award Stephen Lundeen, Chair

John Bollinger

Ed Eyler

1999 APS Centennial Program

Stuart Freedman, Chair

Geoffrey Greene

Newsletter Harvey Gould

NIST Precision Measurement Grants Offered

Applications are being solicited for two new Precision Measurement Grants, sponsored by the National Institute of Standards and Technology, to be awarded beginning Oct. 1, 1998 (Fiscal Year 1999). Each grant is in the amount of \$50,000 per year, renewable for up to two additional years, for a total of \$150,000. NIST sponsors these grants to encourage research by U.S. university and college faculty members in the field of precision measurement and fundamental constants and to foster contacts between NIST scientists and such faculty members actively engaged in such work. Candidates' pre-proposal summaries and biographical information must reach NIST by Feb. 2, 1998, to be considered for the FY 99 awards. For more information, contact Barry N. Taylor, Chairman, NIST Precision Measurement Grants Committee, National Institute of Standards and Technology, Building 225, Room B161, Gaithersburg, MD 20899-0001, (301) 975-4220, e-mail: barry.taylor@nist.gov.

Francis M. Pipkin Award

Thanks to a superb fund raising effort by the Pipkin Award Committee, the TG now has \$30,000 in the Pipkin Award account. We expect our proposal to establish the award to come before the APS Executive Board at its November meeting. (Additional details may be found in the minutes of the business meeting on page 4.)

Travel Support for Young Scientists

The Topical Group is again making partial travel support available for graduate students, post docs, and recently graduated physicists to present contributed papers in the area of precision measurement and fundamental constants at the APS Spring Meeting, April 18-21, 1998. Criteria for an award include the

relevance of the paper to the Topical Group and travel reimbursement needs. Participants may initiate their request for consideration by sending an additional copy of their submitted abstract to Edwin R. Williams, Chair of the Topical Group's Committee for Educational Activities, NIST, MET(220), Rm B258, Gaithersburg, MD 20899 or by e-mail (williams@eeel.nist.gov). Please note that your abstract must be submitted to the APS for the Spring Meeting, and you should label it for a session on precision measurement and fundamental constants. The deadline for abstract submission to the APS and for the partial travel support request is Jan. 16, 1998.

Nominations for Fellowship

Fellowship Nominations are due April 1. Each year our topical group can designate several new APS Fellows, from nominations of our membership. Nomination forms and other information regarding nominations may be obtained by visiting the APS homepage at www.aps.org or by writing the chairman of this year's Fellowship Committee: Steve Lundeen, Dept. Of Physics, Colorado State University, Ft. Collins, CO 80523 (e-mail: lundeen@lamarcolostate.edu). Any unsuccessful nominations submitted last year will be automatically reconsidered this year without the need for further action by the nominator. Nominations should be submitted directly to the APS, at the address on the nomination form, and must be complete (including all supporting materials) by April 1. If you have any questions, call Steve Lundeen at 970-491-6647.

CPEM98

The upcoming Conference on Precision Electromagnetic Measurements, CPEM98, will be hosted by the National Institute of Standards and Technology in Gaithersburg, MD, and will be held from Monday, July 6, through Friday, July 10, 1998, at the Renaissance Washington, D.C., Hotel.

The objective of CPEM98 is to exchange information on topics such as: Antennas & dielectrics, automated measurement systems, DC/LF measurements & standards, fundamental constants, international compatibility of measurements, microwave/mmwave measurements (RF and EMC), nanotechnology, power & energy, quantum standards, realizations of units, and time & frequency.

The deadline for receipt of submitted summaries is Jan. 5, 1998.

Additional information is available online at <http://www.eeel.nist.gov/cpem98/> or by contacting the Conference Secretary: Katherine H. Magruder, Telephone: (301) 975-2402, Fax: (301) 926-3972, e-mail: katherine.magruder@nist.gov.

Online Information

Fundamental constants and other very useful information are online at NIST at <http://physics.nist.gov/PhysRefData/contents.html>. The site includes a database with electron impact ionization cross sections for atoms and molecules. A listing of scientific websites can be found at <http://www.scicentral.com>.

Request for Input to PMFCTG

If there is a new activity that you think the TG should be engaged in, or if you have suggestions about TG activities (including the Newsletter), please feel free to contact a Committee Chair, Executive

Committee Member or Officer (e-mail addresses can be found in the Newsletter). We are looking for interested and thoughtful members to ask to help run TG activities and to join Committees.

Minutes of the 1997 Business Meeting

Saturday, April 19, 1997, Washington, D.C.

Geoffrey Greene, (outgoing) Chair of the Topical Group, opened the meeting at 6:05 p.m.

Election Results: Geoffrey Greene announced the results of the elections (see above).

Treasurer's Report: Harvey Gould reported that as of March 31, 1997, the TG had a balance of \$5,400. We had received \$2,300 in dues, \$300 in interest and had \$5,000 in savings. We spent \$1,600 for two Newsletters, \$600 for student travel and \$100 on miscellaneous expenditures.

Fellowships: The new APS fellows, Steve K. Lamoreaux, Los Alamos National Laboratory, and Jonathan R. Sapirstein, Notre Dame University, were announced.

Pipkin Award: Stephen Lundeen announced that \$30,000 was in the account and that the Executive Committee had approved the final form of the award to be forwarded to the APS Council for approval. This will be the first award or prize of the PMFCTG and will raise the profile of the TG (and the recipient). The proposed award will consist of \$2,000 which the recipient is encouraged to use for travel to disseminate her or his results, plus travel expenses for travel to the meeting at which the award is presented, plus a certificate. Eligibility will be limited to those under the age of 40 on the nomination deadline date.

New Business: It was pointed out that theorists are underrepresented in PMFCTG activities. There is at present no theorist on the Executive Committee. Although the term "Measurements" is part of the TG name, it is the theory that helps make the measurements meaningful and precise and the constants fundamental.

It was noted that the symposia of the TG were extremely well attended, at times overattended. Dan Heinzen was congratulated.

Outgoing Chair Geoffrey Greene was thanked with a round of applause for a job well done. The TG on Precision Measurement and Fundamental Constants again completed a productive year.

Adjourn: The meeting was adjourned at 6:19 p.m.