National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230

November 7, 2006

REFERENCE: NSF 07-520 (http://www.nsf.gov/pubs/2007/nsf07520/nsf07520.htm)
PROPOSAL DEADLINE: January 16, 2007

Dear Colleague:

This letter is to inform you of the status of the NSF program solicitation for Research in Support of the National Space Weather Program (NSF 07-520) for 2007. In 2006, NSF formed a partnership with NASA to promote large, collaborative research in space weather modeling. Since the majority of the 2006 NSF funding went to modeling work, the emphasis in 2007 will be on data analysis and modeling of past space weather events rather than on the development of new space weather models. Topics of particular interest are:

- CME (Coronal Mass Ejection) initiation and transport
  - Evolution of solar active regions and CME precursors
  - Magnetic field evolution and dynamics in Interplanetary CMEs
  - CME "cannibalism"
- Acceleration and transport of Solar Energetic Particles (SEPs)
  - Variability of SEP spectra and composition at high energies
  - SEP creation mechanisms
  - SEPs and heliospheric shock physics and wave particle interactions in the heliosphere
- Interaction of CMEs and CIRs (Corotating Interaction Regions) with the magnetopause
  - disturbances in magnetopause location and shape
  - explosive particle energization, transport and precipitation in the plasma sheet
  - injection of plasma into the magnetosphere
  - generation of large waves and currents on the magnetopause and in the magnetotail current sheet
- Magnetic storms
  - source and loss processes of energetic particles in the radiation belts and the ring current
  - large magnetic perturbations on the ground - including over and under-shielding phenomena
  - density variations in the ionosphere, thermosphere and magnetosphere
  - Subauroral Polarizations Streams (SAPS)

For 2007, NSF welcomes individual Principal Investigator proposals, but it also welcomes collaborative research involving multiple PIs and institutions. In particular, NSF is cooperating with the Russian Foundation for Basic Research (RFBR) under the terms of the *Memorandum of Understanding on Basic Scientific Research Cooperation Between the National Science Foundation of the United States of America and the Russian Foundation for Basic Research*. Standard NSF review processes will be used to evaluate all the proposals submitted to the 2007 space weather competition, including those involving collaborations with scientists in Russia.

Collaborative research with scientists in Russian to be performed under the MOU between NSF and the RFBR requires that proposals be submitted to both NSF (proposal submitted by the American PI(s) and institutions) and to the RFBR (proposal submitted by the Russian investigator(s)). The proposal submitted to NSF must include a letter from the Russian PI(s)

confirming that a companion proposal has been or will be submitted to the RFBR. Under the terms of the MOU, Russian scientists who compete successfully for an award will receive funding from the RFBR and successful American applicants will receive funding from the NSF. For an award to be made for a proposal, both the agencies must agree on the level of funding to be provided from the agencies. Program Officers from both agencies will cooperate in selecting reviewers for the collaborative proposals and making the final selection of the proposals to be awarded.

For further information on the goals of the NSF/RFBR goals in space weather research please contact:

Dr. Kile Baker (kbaker@nsf.gov)
GEO/ATM
National Science Foundation.

Russian Scientists who wish to have additional information about the NSF/RFBR cooperative agreement should contact:

Dr. Vladimir Konnov (konnov@rfbr.ru)
Dept. of International Relations
Russian Foundation for Basic Research

For general information about NSF's program solicitation for space weather research please refer to NSF 07-520 (http://www.nsf.gov/pubs/2007/nsf07520/nsf07520.htm) or contact the cognizant NSF program officers:

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