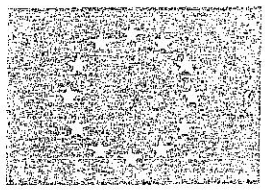

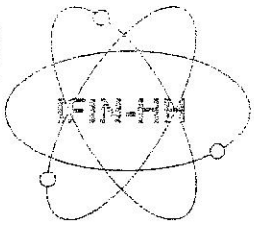

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April 2, 2012

RE: **Prof. Dr. Peter Hess's nomination for the Premio UNAM 2012**

I first met Prof. Dr. Peter Hess in 1985 in the Theoretical Physics Institute of Johann Wolfgang Goethe Universität, Frankfurt am Main, Germany, when he became Privatdozent after defending his very interesting thesis concerning nuclear molecules with exotic collective modes. Since that time I appreciate his dedication to his profession, his real ability in a deep understanding and proper manipulation of advanced notions and concepts of theoretical physics, mathematics and numerical computing, his ambition and efficiency in solving a given problem, his passion for physics and desire to perform an advanced scientific research.

His potential for scientific leadership was proven during many research visits at Institut fuer Theoretische Physik der J. W. Goethe Universitaet Frankfurt am Main, Germany, Gesellschaft für Schwerionenforschung (presently GSI Helmholtz Centre for Heavy Ion Research), Darmstadt, Germany, Institut fuer Theoretische Physik der Justus-Liebig Universitaet, Giessen, Germany, Frankfurt Institute for Advanced Studies, Frankfurt am Main, Germany, Neuchatel University, Switzerland, Vanderbilt University, Nashville, TN, USA, Institute of Theoretical Physics and Astrophysics, University of Cape Town, South Africa.

Based on his internationally well known outstanding scientific results, recently he was highly honoured as the *MERCATOR Gastprofessur* by Deutsche Forschungsgemeinschaft (DFG). It is the highest award granted by DFG to few prestigious foreign scientists. We should also mention other particularly important positions such as a previous Deutsche Forschungsgemeinschaft MERCATOR Gastprofessur in Giessen, DAAD Gastprofessor C4 (full professor) in Giessen, DFG Gastprofessor Frankfurt Institute for Advanced Studies, Frankfurt, Germany.

A further gain in his career was acquired via his teaching experience in a broad range of fields such as Classical Mechanics, Classical Electrodynamics, Statistical Physics, Quantum Mechanics, Symmetries in Physics, Group Theory, Nuclear Structure, Nuclear Reactions, Nuclear Collective Models, Field Theory, etc. He also organized 26 International and National Conferences in Mexico.

He has published in many high impact factor Journals (including Physical Review Letters, Physical Review C and D, Annals of Physics (N.Y.), Eur. Phys. J. A and C, Journal of Physics G, Nucl. Phys. A and B, Zeitschrift fuer Physik, etc) more than 159 articles —

substantial contributions in a vividly growing new research areas. This proves Prof. Hess's ability to produce excellent scientific results. His publications are well structured, well written and conform to the best scientific standards. Many new topics in Physics were initiated by him. His research interest covers a very broad area. We can mention a few: general collective model, extended rotation-vibration model, shape transitions and shape coexistence, clusterization and ternary clusterization, nuclear molecules, giant trinuclear molecules, microscopic derived Potential Energy Surface, group theory, symplectic algebras, algebraic cluster models, phenomenological and microscopic cluster models, double beta decay, double Fermi transitions, renormalized QRPA, boson expansion techniques, Interacting Boson Approximation, Elliott SU(3) shell model, Regge trajectories, many gluon systems within the M.I.T. bag model, gluonic ground state of QCD, algebraic Approach to non-perturbative description of QCD, Quantum Mechanics in dissipative systems, etc. Most importantly, Professor Hess became a world leader expert in applications of Pseudo-Complex Field Theory to General Relativity showing that there are no Black Holes.

His publications are well received by the scientific community, with a number of citation by others larger than 1100.

His outstanding contributions have been acknowledged several times by the national and international scientific community. Besides the already mentioned Invited Professorships, he got various national prizes, Marcos Moshinsky Medal, Prize of Scientific Research of Mexican Society of Physics, Prize SCOPUS awarded by Elsevier Publishers, etc.

He extended his influence and impacts through a remarkable career in trainig young scientists in their PhD research. In scientific cooperations he stimulated, challenged, and enhanced the research of his partners in many ways. Some of his scientific coworkers are prestigious scientists wellknown worldwide, e.g., Walter Greiner, Marcos Moshinsky, J.P. Draayer, J.H. Hamilton, W. Scheid, J.A. Maruhn, P.-G. Reinhard, O. Civitarese, R. V. Jolos, G. Levai, J. Cseh, A. Algora, etc.

Professor Hess's scientific ativity played a key role in developing new research fields, by his inspiring research work, enthusiastic dissemination of the results in articles, books, invited talks at International Conferences, seminar talks abroad, and direct contact with experimentalists and theoreticians.

Prof. Hess's work combines creativity, innovative research and the art of computing in an impressing way. He has proven many times, that he is able to do research on a world leading level, he has the skills and strength to realize the research projects successfully.

In conclusion Peter Hess is an outstanding scholar with a unique combination of sharp intelligence, prodigious memory and huge capacity for work, with an important output and unusually high impact, internationally recognized and appreciated for his scientific results. By taking these features into account as well as the results obtained so far, I warmly recommend Prof. Dr. Peter Hess, an excellent, talented and hard-working physicist, for the 2012 UNAM Prize.

Dorin Poenaru

(Dorin N. Poenaru)