



# DEPARTMENT OF PHYSICS

INDIANA UNIVERSITY

College of Arts and Sciences  
Bloomington

Adam Szczepaniak  
812-855-3977  
e-mail: aszczepa@indiana.edu

February 26, 2018

Dr. Miguel Alcubierre Moya  
Instituto de Ciencias Nucleares  
Universidad Nacional Autónoma de México  
Ciudad Universitaria, Circuito Exterior S/N  
A.P. 70.543  
04510 Mexico City  
Mexico

Dear Dr. Moya

It gives me great pleasure to support Prof. Peter Hess nomination for the position of Professor Emeritus of the UNAM. I have known Prof. Hess and his work for over thirty years; first through his research papers and later as a colleague and collaborator.

Let me begin by saying a few words about myself. I am a theoretical physicist specializing in theory and phenomenology of strong interactions. I am a professor at Indiana University and director of the Joint Physics Analysis Center at Jefferson Laboratory located in Newport News, VA. As a beginning graduate student, I was a student and subsequently collaborator of Prof. Marcos Moshinsky. For almost twenty years I collaborated with scientists in Mexico.

Prof. Hess is widely recognized as an outstanding physicist from his work on development and applications of group theory and algebraic methods. He published over 200 research papers, conference proceedings and book chapters. He supervised a cohort of undergraduate, graduate students and postdocs.

His contributions cover a wide spectrum of topics, from works on nuclear and subnuclear phenomena that transcendent in mathematical elegance to novel approaches to general relativity. Moreover, his leadership in bringing together world experts to Mexico, through the conference organized by the Mexican Nuclear Physics Society, one of the longest lasting nuclear physics meetings in the world, and other venues has been instrumental in maintaining the high standards of nuclear physics research in Mexico and formation of new generations of scientists.

Nuclear physics as a discipline has been studied for almost hundred years. At present, with several new facilities just around the corner, e.g. FRIB and the rapid developments in numerical simulations that are based on first principle dynamics the field is entering an era with a high potential for new discoveries and unprecedented precision in theoretical analysis and interpretation. These will provide better understanding of the fundamental interactions, the emergent nuclear phenomena, nuclear astrophysics and its role in stellar evolution. Through a series of papers on effective Hamiltonians for nuclei and nucleons, Prof. Hess with collaborators have, over the years, been able to provide key phenomenological interpretations in a wide class of nuclear phenomena including clusterization in heavy nuclei, role of nuclear deformations on double-beta decays or formation of quasiparticles in the hadron spectrum.

Besides the impressive research contributions, Prof. Hess has held important scientific leadership positions. He served on several science boards, including tenure as the President of the Nuclear Physics Division of the Mexican Physical Society and as the Associate editor of the *Revista Mexicana de Fisica*.

Prof. Hess's emphasis on the elegant methods of group theory that permeates through his research has changed the paradigm in nuclear structure and has left a lasting mark on the field. Prof. Hess embodies all of the attributes of a distinguished researcher and mentor and I wholeheartedly support the nomination to the rank of Professor Emeritus.

Sincerely yours,

Adam Szczepaniak  
Professor, Department of Physics, Indiana University  
Physics Analysis Center, Jefferson Lab, Director.