Mosquera Cuesta Herman J.

Position: Visiting Professor Universidade Estadual Vale de Acarau, Sobral - CE, Brazil

Period covered: 12 May 2012 – 18 July 2012

I Scientific Work

I have continued my research duties involving Nonlinear Electrodynamics in Astrophysics and Cosmology, in particular in applications to CMB physics, and also to study the characteristics of the polarized radiation from quasars. I also concluded the editing process of two books which are listed below in this annual report.

II Conferences and educational activities

II a Conferences and Other External Scientific Work


International Conference in Numerical Analysis and Applied Mathematics, Kos, Greece, September 18-26, 2012

Mário Novello 70th Anniversary Symposium, Rio de Janeiro, August 15-17, 2012

II b Work With Students

Work with ICRANet Erasmus Mundus Ph. D. Student Jonas Pedro Pereira on Applications of Nonlinear Electrodynamics in Relativistic Astrophysics: Prepared article on “Reversible Transformations in Nonlinear Electrodynamics” (To be submitted for publication)

Adviser of Student Luis Henry Nuñez Quiroga in his work leading to Bachelor Degree in Physics – Finished in June 2012, from Department of Physics, Universidad Nacional de Colombia, Bogota

Work with M. Sc. Student Daniel Alfonso Pardo, School of Physics, Universidad Nacional de Colombia, Medellín. Theme of Dissertation: “On Gravitational Waves Astrophysics”, to be presented no later than December 2012

Adviser of “Work of Conclusion” of Course Licenciatura em Fisica, of student Reginaldo Freitas at Universidade Estadual Vale de Acarau”, in Sobral, Ceara, Brazil

II c Other Teaching Duties

Delivered “Introductory Course on General Relativity” at “Course of Licenciatura em Fisica, Universidade Estadual Vale de Acarau”, in Sobral, Ceara, Brazil. I also prepared the “Academic Program” for the “Course of Specialization in Astrophysics and Cosmology” to offered by Universidade Estadual Vale de Acarau, in Sobral, Ceara, Brazil, within the Sobral Astro Project.
III. Service activities

III a. Within ICRANet

Collaborating with Prof. Remo Ruffini in preparing letters of invitation for other Brazilian institutions to join ICRANet as scientific partners. Also collaborating in providing information to ICRANet Scientific Staff and Research Collaborators regarding the Brazilian Government new program: Science without Frontiers, which opens new avenues for research cooperation among most ICRANet member institutions and Brazilian universities and research centers.

III b. Outside ICRANet

Co-Manager of Sobral Astro Project, an interiorization of science program of the Government of Ceara State, Brazil, in collaboration with General Coordinator Prof. Francisco J. Amaral Vieira, ICRANet Secretary for South-America.