

Research on Casimir effect in Barcelona

People:

Emilio Elizalde, PI, Senior Full Prof,

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Jaume Haro (UPC) -- Visiting Faculty, 1 year sabbat

August Romeo, external contract (col. Steve Fulling, Kim Milton, ...)

Post-Docs (2)

Pedro J. Silva Briceño, Post-Doc Contract I3P CSIC

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PhD Students (4)

Miguel Tierz Parra, PhD CSIC (now Post-Doc Brandeis Univ)

Diego Sáez, Contratado PhD CSIC

Gloria García Cuadrado

Roger Oliva

Visitors (2007-08)

Kirill Bronnikov
Aram Saharian
Iver Brevik
Misao Sasaki
Kazuharu Bamba
Antonino Flachi
Guido Cognola
Sergio Zerbini
Valery Obukhov
Iver Brevik
Masato Minamitsuji
Konstantin Osetrin
Salvatore Capozziello

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Peter Lavrov
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Martin Börstad Eriksen
Käre Olaussen
Sin'ishi Nojiri
Irina Ya. Arafeva
John Quiroga
Alexander Burinskii
Oleg Zaslavskii

- **Some lines of research**

Vacuum effects in cosmology

On particle creation in the flat FRW chart of de Sitter spacetime.

[Jaume Haro](#) ([Barcelona U.](#)) , [Emilio Elizalde](#) ([CSIC, Catalunya](#)) . 2008. 11pp.

Published in **J.Phys.A41:372003,2008.**

Dark energy, exotic matter and properties of horizons in black hole physics and cosmology.

[K.A. Bronnikov](#), [E. Elizalde](#), [O.B. Zaslavskii](#) . Oct 2008. 9pp. [Temporary entry](#)

e-Print: **arXiv:0810.5018** [gr-qc]

Dynamical Casimir effect

Hamiltonian Approach to the Dynamical Casimir Effect.

[Jaume Haro](#) ([Barcelona, Polytechnic U.](#)) , [Emilio Elizalde](#) ([CSIC, Catalunya](#) & [Barcelona, IEEC](#)) . Sep 29, 2006. 4pp.

Published in **Phys.Rev.Lett.97:130401,2006.**

Dynamical Casimir Effect with Semi-Transparent Mirrors, and Cosmology.

[Emilio Elizalde](#) ([CSIC, Catalunya](#) & [Barcelona, IEEC](#)) . Dec 2007. 11pp.

Talk given at 8th Workshop on Quantum Field Theory Under the Influence of External Conditions (QFEXT07), Leipzig, Germany, 17-21 Sep 2007.

Published in **J.Phys.A41:164061,2008.**

e-Print: **arXiv:0712.1347** [hep-th]

Zeta functional methods

Zeta Function Methods and Quantum Fluctuations.

[Emilio Elizalde](#) ([CSIC, Catalunya](#) & [Barcelona, IEEC](#)) . Dec 2007. 17pp.

Talk given at 5th International Symposium on Quantum Theory and Symmetries (QTS-5), Valladolid, Spain, 22-28 Jul 2007.

Published in **J.Phys.A41:304040,2008**.

e-Print: **arXiv:0712.1346** [hep-th]

On zeta regularization and some of its uses in cosmology.

[Emilio Elizalde](#) ([Barcelona, IEEC](#) & [CSIC, Catalunya](#)) . 2006. 18pp.

Prepared for 5th International Conference on Mathematical Methods in Physics (IC 2006), Rio de Janeiro, Brazil, 24-28 Apr 2006.

Published in **PoS IC2006:008,2006**.