

Ahmed YOUSSEF

Born on February 18, 1984
Egyptian citizen

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Education

- October 2007-September 2011, Ph.D. in theoretical physics (Summa Cum Laude)
Quantum Effects in Expanding Spacetimes
Laboratoire AstroParticules et Cosmologie, université Paris 7.
- 2006-2007, Master 2 of theoretical physics
Ecole Normale Supérieure de Paris.
- 2004-2006, Bachelor and Master 1 of fundamental physics
Ecole Normale Supérieure de Cachan.
- 2001-2004, Classes Préparatoires
Lycée Louis-le-Grand, Paris.
- 2000-2001, French baccalauréat
Lycée Français du Caire.

Work Experience

- From October 2011, Postdoctoral fellow
Humboldt university, Berlin
Group of Prof. Dirk Kreimer, Humboldt professor of mathematical physics.

Research internships

- 04/2007-06/2007, Internship under the supervision of Prof. J. Iliopoulos
Quantum field theory in curved space-time
Laboratoire de physique théorique, Ecole Normale Supérieure, Paris.
- 04/2006-08/2006, Internship under the supervision of Dr. D. Oriti
Loop Quantum Gravity: Hamiltonian and Fock structure of the Group Field Theory
Department of applied mathematics and theoretical physics, Cambridge university.
- 05/2005-07/2005, Internship under the supervision of Prof. E. Bogomolny
Quantum chaos and random matrix theory
Laboratoire de physique théorique et modèles statistiques, Université d'Orsay.

Research subjects

- Quantum field theory in curved spacetime.
- Non-perturbative quantum field theory.
- Higher-derivative theories of gravity and cosmological implications.
- Group theoretical methods and applications to physics.
- Coherent states construction and Berezin-Toeplitz quantization.

Publications

Published articles

- A. Youssef, *Infrared behavior and gauge artifacts in the de Sitter universe: The photon field*, Phys.Rev.Lett. 107(2011)021101.
- N. Deruelle, M. Sasaki, Y. Sendouda and A. Youssef, *Inflation with a Weyl term, or ghosts at work*, J.Cosmol.Astropart.Phys. 03(2011)040.
- H. Bergeron, J-P. Gazeau P. Siegl and A. Youssef, *Semi-classical behavior of Pöschl-Teller coherent states*, Europhysics letters (EPL) 92(2010)60003.
- N. Deruelle, Y. Sendouda and A. Youssef, *Various Hamiltonian formulations of $f(R)$ gravity and their canonical relationships*, Phys.Rev.D 80(2009)084032.

Proceedings

- J-P. Gazeau and A. Youssef, *A discrete nonetheless remarkable brick in de Sitter: the "massless minimally coupled field"*, Phys.Atom.Nucl. 73(2010)222.
- J-P. Gazeau, P. Siegl and A. Youssef, *Krein spaces in de Sitter quantum theories*, Symmetry Integrability and Geometry: Methods and Applications (SIGMA) 6(2010)011.

Schools, Conferences and Workshops

- The first quantum geometry and quantum gravity school, Zakopane, Poland (2007).
- Ecole Prédoctorale de physique statistique des Houches, France (2007).
- IXème Ecole de Cosmologie: Energie noire et gravitation, Cargèse, Corsica (2008).
- Cosmological frontiers on fundamental physics, Brussels (2009).
- 12th Marcel Grossman Meeting, Paris (2009).
- CERN theory institute: from UV to IR, Geneva (2011).

Other experiences

- Referee for the "Journal of Cosmology and Astroparticle Physics" (JCAP).
- Co-supervision, from April to July 2007, of the research internship of
 - B. Lima de Souza, Ecole Polytechnique, *Quantum field theory in de Sitter spacetime*.
 - V. Maron, Université de la méditerranée, *On the ghosts content of higher derivatives theories of gravity*.
- Correction of the physics entrance exam of a French grande école for the publishing house H&K

Languages

- Arabic: Mother tongue.
- French: Fluent.
- English: Good command (106/120 in the internet-based TOEFL test).

Computer Skills

Extended knowledge of Mathematica™.