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Non conformal field theories and dual string solutions

Fact Sheet

Project Information

NCFTDSS

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Project closed

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End date

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Human resources and Mobility in the specific programme for research, technological development and demonstration "Structuring the European Research Area" under the Sixth Framework Programme 2002-2006

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No data

EU contribution

€ 77 125,00

Coordinated by

UNIVERSITE DE PARIS 6 PIERRE
ET MARIE CURIE

 France

Objective

The theory of strings interacting on curved backgrounds is expected to provide a description of the dynamics of realistic quantum field theories. We are still very far from reaching this goal, but remarkable results have been obtained confirming the validity of the string/gauge theory correspondence in a lot of interesting super-symmetric and/or conformal models.

The present project aims to give a contribution to the study of the correspondence in a large class of new non-trivial models. It will mainly focus on the study of $N=1$ super-symmetric non conformal or conformal quiver theories in four dimensions, arising on the world volume of D3-branes transverse to Calabi-Yau cones over quasi-regular and irregular Sasaki-Einstein spaces.

Impressive explicit checks of the correspondence were recently given for these cases. However much has to be learned and much of the string/gauge theory map has to be explicitly found. Moreover, the non-trivial IR dynamics of the non-conformal theories and the precise form of the dual backgrounds has to be uncovered. This research project is intended to fill these gaps.

Fields of science (EuroSciVoc)

[natural sciences](#) > [physical sciences](#) > [quantum physics](#) > **[quantum field theory](#)**

[natural sciences](#) > [mathematics](#) > [applied mathematics](#) > [mathematical physics](#) > **[conformal field theory](#)**



Keywords

AdS

AdS/CFT

Calabi Yau manifolds

String theory

Programme(s)

[FP6-MOBILITY - Human resources and Mobility in the specific programme for research, technological development and demonstration "Structuring the European Research Area" under the Sixth Framework Programme 2002-2006](#)

Topic(s)

[MOBILITY-2.1 - Marie Curie Intra-European Fellowships \(EIF\)](#)

Call for proposal

Funding Scheme

[EIF - Marie Curie actions-Intra-European Fellowships](#)

Coordinator



UNIVERSITE DE PARIS 6 PIERRE ET MARIE CURIE

EU contribution

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Links

[Contact the organisation](#)  [Website](#) 

[HORIZON collaboration network](#) 

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