Centro de Astrofísica
da Universidade do Porto

U.PORTO

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FCT
Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR

PD + F
FCT PhD PROGRAMMES

SFRH/BD/52699/2014

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instituto de astrofísica
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PD + F FCT PhD PROGRAMMES

- *This program is organized in order for Portugal to benefit from ESO and ESA.*
- *Train astronomers, able to address the goals set by the European Commission for space (Horizon 2020).*

* *Towards the detection and characterization of other Earths*
* *Towards a comprehensive study of stars*
* *The assembly history of galaxies resolved in space and time*
* *Space and Ground Systems and Technologies*
* *Unveiling the dynamics of the Universe*

Cosmic Paleontology: Searching for Superstrings

Carlos Martins
(IA-U.Porto)

Anastasios Avgoustidis
(University of Nottingham)

1. Cosmic (super)string evolution;

2. Consequent observational predictions;

1. with help of COSMOS Shared Memory system at DAMTP.

Paul Shellard

BIS National E-infrastructure capital grant ST/J005673/1 and STFCgrants ST/H008586/1, ST/K00333X/1

[Phys.Rev. D93 (2016) no.4, 043534; Phys.Rev. D95 (2017) no.3, 039902]

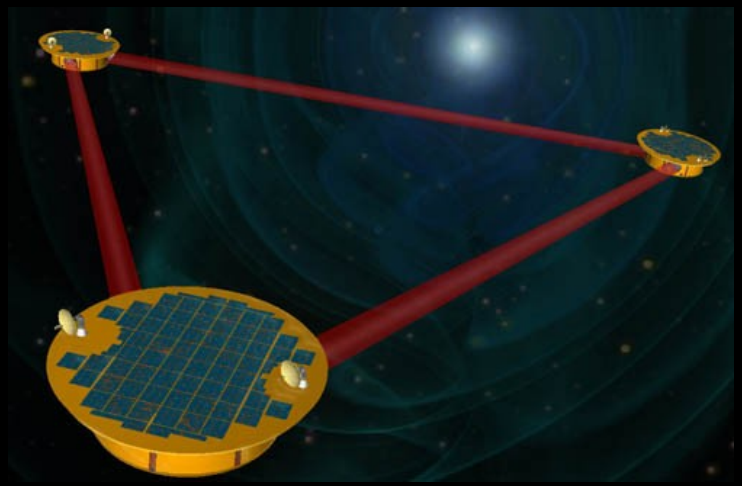
2. predicted signal (features):

1) “Anisotropy of CMB from cosmic string with additional degrees of freedom” (presentation)

[Phys.Rev. D (2017) accepted, arXiv:1709.01839]

2) Ongoing part: gravitational waves from cosmic (super)strings.

(one of the LISA mission sources of gravitational waves)



ESA+NASA mission

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Variety in Space science projects participation (scientific contribution - instrumental development): ORIGINS, CHEOPS, ALMA, ESPRESSO, ELT-HIRES, Euclid (test of dark energy), CANTATA (construct an effective theory of gravity), CAMCAO, LISA (gravitational waves) . . .

Due to participation in ESA and ESO

IA instrumental group provides for LISA elements of the data analysis and the qualification of optical and electronic components.

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Could it be Belarus instead?

Thank you for your attention!