



Iniziativa Specifica TPPC

(Theoretical Particle Physics and Cosmology)



Sezione di Pisa

Sezione di Firenze

Responsabile Nazionale:

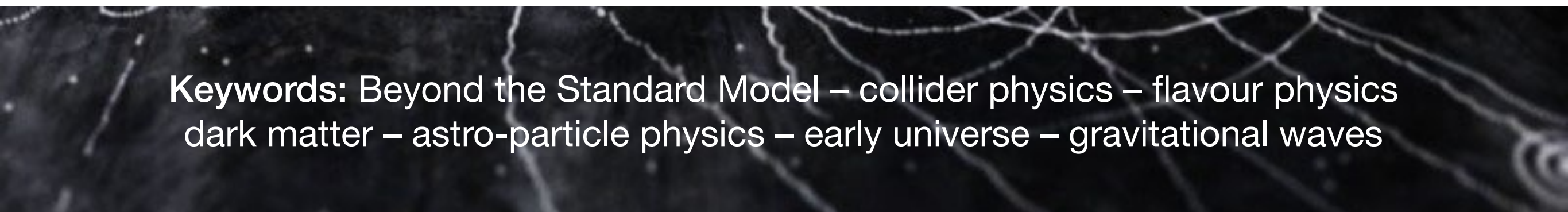
Michele Redi (sezione di Firenze)

e-mail: michele.redi@fi.infn.it

Responsabile Locale:

Roberto Contino (sezione di Pisa)

e-mail: roberto.contino@sns.it



Keywords: Beyond the Standard Model – collider physics – flavour physics
dark matter – astro-particle physics – early universe – gravitational waves

Componenti dei gruppi di ricerca (tutti al 100%)

Sezione di Pisa

Membri permanenti:

Roberto Contino (SNS)

Dario Buttazzo (INFN)

Paolo Panci (Unipi)

Enrico Trincherini (SNS)



Postdoc:

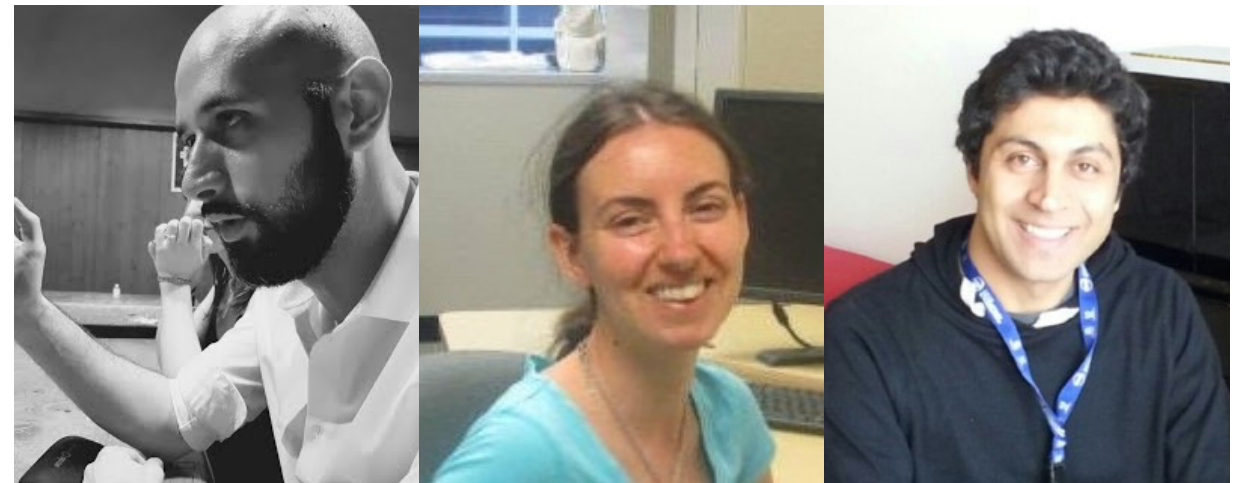
Daniele Teresi (Unipi)

Parsa Ghorbani (Unipi)

Natascia Vignaroli (Unipi)

Christian Gross (Unipi)

+ 2 nuovi
in autunno
(INFN e SNS)



Studenti Dottorato:

Salvatore Bottaro (SNS), Marco Costa (SNS), Giacomo Landini (Unipi), Francesco Serra (SNS), Sonali Verma (SNS), Ludovico Vittorio (SNS)

Sezione di Firenze

Membri permanenti: Michele Redi (INFN), Stefania De Curtis (INFN), Daniele Dominici (Unifi), Diego Redigolo (INFN), Andrea Tesi (INFN), Roberto Casalbuoni (Unifi)

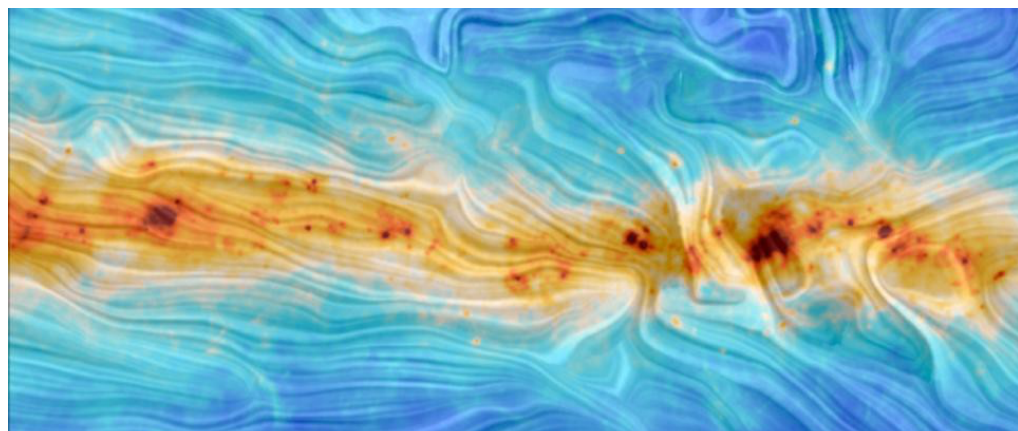
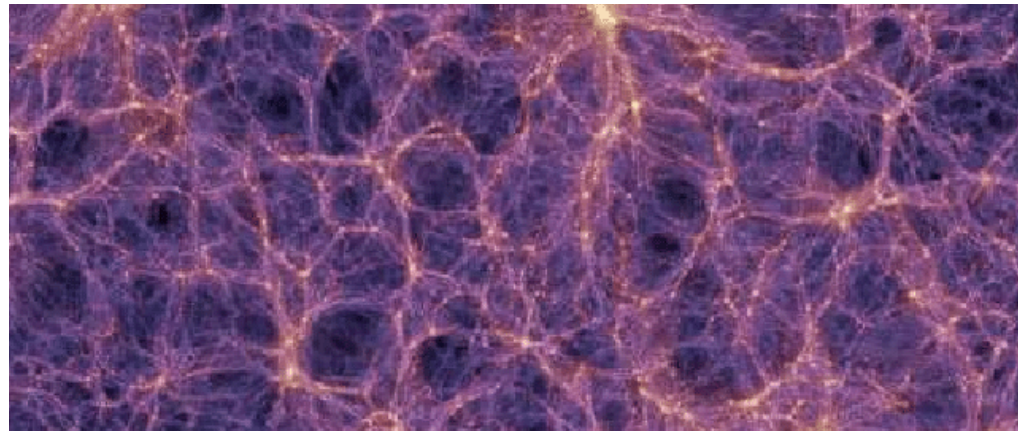
Postdoc: Luigi Delle Rose, Rafael Delgado Lopez, Chen Zhang, Raghuveer Garani

Linee di ricerca

$$\mathcal{L} = D_\mu \phi^\dagger D^\mu \phi - m^2 \phi^\dagger \phi - \lambda |\phi^\dagger \phi|^2$$

Doublet

$$\mathcal{L} = \partial_\mu \Phi^\dagger \partial^\mu \Phi - m^2 \Phi^\dagger \Phi - \lambda (\Phi^\dagger \Phi)^2$$



Beyond the Standard Model

- ♦ SM extensions at and above the TeV scale
- ♦ Experiments at intensity frontier and light new particles
- ♦ Flavour physics

Collider Phenomenology

- ♦ LHC physics and future colliders
- ♦ Precision measurements and collider searches through machine learning

Dark Matter

- ♦ DM models in gauge theories and beyond
- ♦ Indirect and direct detection experiments
- ♦ Light DM and axions

Gravity and Cosmology

- ♦ Gravitational waves from BSM physics
- ♦ Compact mergers and weakly coupled new physics