GSS - Pi

Coord. Naz.: Anna CERESOLE (INFN, Torino)

Coord. Pisa: A. SAGNOTTI (Scuola Normale Superiore & INFN - Pisa)

GSS Nodes

Genova, Lecce, Milano, Milano Bicocca, Padova, Pisa, Roma Tre, Torino

Members of the Pisa Node

- **Staff members**
  - Augusto SAGNOTTI (Professor)
  - Guilherme PIMENTEL (RTDB)

- **Other participants**
  - Yoshiyuki TATSUTA (PRIN Post Doc, will stay until the Fall of 2023)
  - Salvatore RAUCCI (PhD student, will stay until the fall of 2024)

Publications 2021-22

[1] P. Pelliconi and A. Sagnotti, ``Integrable Models and Supersymmetry Breaking," Nucl. Phys. B965 (2021), 115363 [arXiv:2102.06184 [hep-th]].

[2] A. Sagnotti and J. Mourad, ``String (In)Stability Issues with Broken Supersymmetry," LHEP 2021 (2021), 219 [arXiv:2107.04064 [hep-th]].

[3] J. Mourad and A. Sagnotti, ``On warped string vacuum profiles and cosmologies. Part I. Supersymmetric strings," JHEP 12 (2021), 137 [arXiv:2109.06852 [hep-th]].

[4] J. Mourad and A. Sagnotti, ``On warped string vacuum profiles and cosmologies. Part II. Non-supersymmetric strings," JHEP 12 (2021), 138 [arXiv:2109.12328 [hep-th]].

[5] J. Mourad and A. Sagnotti, ``A 4D IIB Flux Vacuum and Supersymmetry Breaking. I. Fermionic Spectrum," [arXiv:2206.03340 [hep-th]].

[6] S. Raucci, ``On Codimension-one Vacua and String Theory," [arXiv:2206.06399 [hep-th]].

[7] A. Achucarro, M. Biagetti, M. Braglia, G. Cabass, E. Castorina, R. Caldwell, X. Chen, W. Coulton, R. Flauger and J. Fumagalli, et al. ``Inflation: Theory and Observations," [arXiv:2203.08128 [astro-ph.CO]].

[8] D. Baumann, D. Green, A. Joyce, E. Pajer, G.L. Pimentel, C. Sleight and M.Taronna, ``Snowmass White Paper: The Cosmological Bootstrap," [arXiv:2203.08121 [hep-th]].

[9] G.L. Pimentel and D.G. Wang, ``Boostless Cosmological Collider Bootstrap," [arXiv:2205.00013 [hep-th]].

Research Program

- **Supersymmetry breaking by fields and branes:**

String Theory & broken SUSY: warped fluxed compactifications and stability (AS). Instability of non-SUSY Electro(Magneto)vac Solutions (SR). Brane deformations by dilaton tadpoles (AS, SR, YT).

- **Cosmological Correlations and Inflation:**

Defining an S-matrix for QFT in de Sitter space (GLP). New methods to compute cosmological correlators (GLP). Signatures of early fast-roll on the CMB bispectrum (AS, GLP)

Thank You