



Universidad del País Vasco  
Euskal Herriko Unibertsitatea  
The University of the Basque Country

## Seminarios de Física Teórica Fisika Teorikoa: Hitzaldiak

# Stairway to Heaven

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**Abstract** I will present a new perspective for probing particle physics with gravitational waves (GWs) from the early Universe. The idea (yet unpublished) might provide eventually an alternative to particle accelerators, allowing to measure couplings and masses within particle physics scenarios, at energies way above what any particle accelerator will ever reach. I will show an application of it within the context of Higgs-Inflation, where all the Standard Model (SM) fields contribute during (p)reheating to the generation of a background of GWs. From the signatures imprinted in the GW spectrum, one should be able to infer all the couplings of the SM. The technique is not limited to Higgs-Inflation, and one could easily think about applications to other early Universe scenarios where either SM and/or BSM fields are excited. The name of my talk will become (hopefully) clear at the end of my presentation.

Seminar Room, Dept. of Theoretical Physics, Corridor 4.-2.

**Tuesday, October 22nd, 2013**

**Time:11:40**