



ID de la contribución : 916

Tipo : no especificado

Early Universe hypercharge breaking and neutrino mass generation

miércoles, 20 de noviembre de 2024 9:45 (15)

Radiative neutrino mass models represent a vast landscape of possibilities for very exotic beyond Standard Model physics. In this talk, we will explore the idea of non-standard thermal histories in the Zee-Babu neutrino mass generation model and specifically consider the possibility of hypercharge non-restoration in the early Universe. We will find that careful treatment of finite-temperature perturbation theory is crucial for mapping out the parameter space of phenomenological interest in such scenarios. The highlight of the talk will be a novel baryon asymmetry generating mechanism which is driven by the high-temperature hypercharge-breaking phase and the specific ingredients generically found in radiative neutrino mass models.

Abstract

Radiative neutrino mass models represent a vast landscape of possibilities for very exotic beyond Standard Model physics. In this talk, we will explore the idea non-standard thermal histories in the Zee-Babu neutrino mass generation model and specifically consider the possibility of hypercharge non-restoration in the early Universe. We will find that careful treatment of finite-temperature perturbation theory is crucial for mapping out the parameter space of phenomenological interest in such scenarios. The highlight of the talk will be a novel baryon asymmetry generating mechanism which is driven by the high-temperature hypercharge-breaking phase and the specific ingredients generically found in radiative neutrino mass models.

Primary author(s) : Prof. NO REDONDO, José Miguel (IFT UAM-CSIC & Departamento de Física Teórica UAM); Prof. MERLO, Luca (IFT UAM-CSIC & Departamento de Física Teórica UAM); LÓPEZ ZURDO, Sergio; LOZANO ONRUBIA, Álvaro (IFT UAM-CSIC & Universidad Autónoma de Madrid)

Presenter(s) : LOZANO ONRUBIA, Álvaro (IFT UAM-CSIC & Universidad Autónoma de Madrid)

Clasificación de la sesión : Física Teórica

Clasificación de temáticas : Física Teórica