

---

## Seminario INFN

---

**Johan Henriksson**

Università di Pisa

terrà il Seminario:

### **Rigorous bounds on light-by-light scattering**

Abstract: Scattering of photons at low energy can be described by an effective field theory (EFT). In this talk I will present recent work where we compute rigorous bounds on the low-energy EFT coefficients using the principles of the S-matrix bootstrap. Specifically, we show how basic physical assumptions such as unitarity and analyticity of the 2-to-2 scattering amplitude are used to write down positivity sum rules which constrain the values of the EFT coefficients. First we provide a quick derivation of familiar one-sided bounds (compatible with the absence of superluminality), then we use crossing symmetry of the low-energy amplitude to derive null constraints which lead to novel two-sided bounds on ratios of EFT coefficients. Based on 2107.13009.

Mercoledì 6 ottobre 2021  
alle ore 14.00  
Aula Galilei