

**Seminar on**

**THEORETICAL PARTICLE PHYSICS**

on Wednesday, 13 January 2016, at 2.00 p.m. c.t.  
Theresienstraße 37 / III, Seminar Room A318

Speaker: Martin Vollmann  
Theoretical Elementary Particle Physics  
TU München

Title: „Enhancing Effects of non-trivial Dark Matter Speed  
Distributions on Cosmic gamma-Ray Line Signals“

**Abstract**

Detection of monochromatic gamma rays, or more commonly known as gamma-ray lines, in the sky is considered a strong hint in favor of the hypothesis that the dark matter (DM) is composed of weakly interacting massive particles (WIMPs). The strength of these signals, albeit model-dependent, is typically predicted by assuming vanishing relative speeds of annihilating WIMP pairs. In this talk I will revisit such predictions and by considering non-vanishing relative speeds I will show that, depending on the mass spectrum of the WIMP model, DM-induced line signals can be greatly enhanced. As a guiding example we consider WIMP models with Universal Extradimensions.

Prof. Buchalla