

Physics Colloquium

Timm Wrase – Technical University Vienna

“Dark Energy and String Theory”

Dark energy constitutes roughly 70% of the energy density of our universe. It counter-acts gravity and is responsible for the observed accelerated expansion of our universe. On-going and near future experiments will measure the properties, in particular the time dependence, of this dark energy with much higher precision. At the same time theorists are trying to improve our theoretical understanding of dark energy. String theory combines Albert Einstein’s theory of general relativity with quantum mechanics into a full-fledged theory of quantum gravity. Currently string theorists are actively debating whether they should predict that the dark energy in our universe is changing in time or whether it can be time independent. I will review these latest theoretical developments and their potential implications for the fate of our universe.

Timm Wrase received his PhD from the University of Texas at Austin in 2008. Afterwards he held postdoc positions at the Max-Planck-Institute in Munich, Cornell University and Stanford University. He is currently an assistant professor at the Technical University Vienna in Austria. In his research he is using string theory, the best understood theory of quantum gravity, to construct theoretical models that describe the cosmological evolution of our universe. His other research interests include supergravity, dualities in string theory and field theory and moonshine phenomena that connect different branches of mathematics.

Physics Faculty and Search Committee Candidate

Thursday, February 21st in LL 316 at 4:10

Refreshments available at 3:45