



Contribution ID: 17

Type: parallel talk

## Cosmological consequences of Extended Quasidilaton Massive Gravity

*Monday 4 May 2015 14:45 (15 minutes)*

Quasidilaton massive gravity offers a physically well-defined gravitational theory with non-zero graviton mass. I will discuss the expansion history of the universe in quasidilaton massive gravity models, during radiation domination, matter domination, and a late-time self-accelerating epoch related to the graviton mass, and I will present the comparison of theoretical predictions with the Supernovae data. The existence of self-consistent solutions constrains the amplitude of the quasi-dilaton field and the graviton mass, as well as other model parameters. Additional bounds on model parameters are obtained through the stability of gravitational perturbations. It can be shown that the effective mass of gravitational waves can be significantly larger than the graviton mass, opening the possibility that a single theory can explain both the late-time acceleration of the cosmic expansion and modifications of structure growth leading to the suppression of large-angle correlations observed in the cosmic microwave background.

**Primary author:** KAHNIASHVILI, Tina (Carnegie Mellon University)

**Co-authors:** KAR, Arjun (Carnegie Mellon University); KOSOWSKY, Arthur (University of Pittsburgh); WATERS, Dacen (Carnegie Mellon University); LAVRELASHVILI, George (Tbilisi State University, Georgia); AGARWAL, Nishant (Penn-State University)

**Presenter:** KAHNIASHVILI, Tina (Carnegie Mellon University)

**Session Classification:** Cosmology I