

Suroso: "Four Dimensional Cosmology with Nonminimal Derivative Coupling of External Scalar Field"

Tuesday, 3 October 2017 15:30 (30 minutes)

The nonminimal derivative coupling (NMDC) model is a class of tensor scalar theory of gravity that contains a coupling between curvature tensor and derivative of scalar field. This model has been used in various aspects of gravity and cosmology including inflation, late time acceleration, and black hole physics. The dynamics of the model is described by the Einstein equations (which is obtained by varying the action with respect to the metric) and the scalar field equation of motion (which comes from the variation of the action with respect to the scalar field). In this talk, the scalar field is considered as an external scalar field, which means that we do not take a variation of the action with respect to the scalar field, and the field equations are derived from the Einstein equations and the conservation of energy momentum tensor. Then their solution is studied for some particular potential functions of scalar field.