Cosmological constraints of Horndeski gravity

Horndeski gravity is a class of theories described by second-order equations of motion and includes all ideal fluid dark energy models, quintessence, scalar-tensor, f(R) and Galileon models. This class of theories has garnered significant amounts of attention lately due to the development of numerical codes abut also the possibility of detection of various features with current and upcoming surveys. The goal of this project is to study the analytical and theoretical predictions of certain subclasses of models in detail and then to confront them with the latest cosmological data (CMB, BAO, SnIa, growth-rate etc).