Solar system tests versus cosmological constraints for $f(G)$ models JACOB MOLDENHAUER, Francis Marion University, MUSTAPHA ISHAK, The University of Texas at Dallas — Recently, some $f(G)$ higher order gravity models have been shown to exhibit some interesting phenomenology including a late time cosmic acceleration following a matter-dominated deceleration period with no separatrix singularities in between the two phases. In this work, we compare the models to the solar system limits from the gravitational frequency redshift, the deflection of light, the Cassini experiment, the time delay and the perihelion shift of planets deriving various bounds on the model parameters. We contrast the bounds obtained with the cosmological constraints on these models finding that the models pass simultaneously both types of constraints.

Jacob Moldenhauer
Francis Marion University