

In this talk, I will show the linear and nonlinear time evolution of a holographic system possessing a first order phase transition. To this aim, I will review the basics of applications of holography in strong coupling matters. The initial state is chosen in the spinodal region of the phase diagram, and includes an inhomogeneous perturbation in one of the spatial field theory directions. The final state of the time evolution shows a clear phase separation in the form of domain formation. The results indicate the existence of a very rich class of inhomogeneous black hole solutions from holographic point of view.