

This bachelor thesis follows article by Bárta, Chill a Fašangová [1]. It is proven there that every ordinary differential equation with a strict Lyapunov function is in fact a gradient system for certain Riemannian metric on the set of all non-equilibrium points. We will try to determine necessary and sufficient conditions for this Riemannian metric to have continuous extension to isolated equilibrium point so that the ODE is gradient system on the whole domain.