

Bachelor thesis pursue the Łojasiewicz inequality. The Łojasiewicz inequality is proved here for generalized Morse-Bott functions and for functions with simple normal crossings. Further on, we study optimality of the Łojasiewicz exponent for those functions. In the last chapter, there are possible applications of the Łojasiewicz inequality to certain gradient-like differential equation stated and proved, such as the theorem on convergence of its solution. There is also shown how one can use the Łojasiewicz exponent to estimate the rate of the convergence.