

# Abstract

The aim of the thesis is the classification of parametrized plane curve singularities. We give the classification of simple, unimodal and bimodal parametrized plane curve singularities over the real numbers and the complex numbers and a classification of simple plane curve singularities over an algebraically closed field of characteristic  $p > 0$ .

- In first problem we used the results of Hafez and Hernandez [HH11] to give a different proof for the classification of simple and unimodal singularities of mappings  $(\mathbb{C}, 0) \rightarrow (\mathbb{C}^2, 0)$  with respect to  $\mathcal{A}$ -equivalence done by Bruce and Gaffney [BJ82] resp. Ishikawa and Janeczko [IJ06] and then give the classification bimodal singularities. The results are extended to a classification over the real numbers  $\mathbb{R}$ .
- In the second task we assume that  $\mathbb{K}$  is an algebraically closed field of characteristic  $p > 0$ . We give the classification of simple parametrized plane curve singularities over  $\mathbb{K}$ . The idea is to give explicitly a class of families of parametrized plane curve singularities which are not simple such that almost all parametrized plane curves deform to one of those and show that remaining parametrized plane curve singularities are simple.