

The main purpose of this bachelor thesis is the description of the attack on the Niederreiter cryptosystem based on GRS codes. This attack was published by Sidelnikov and Shestakov in 1992. In the beginning the problem of group action, which is used in the attack, is introduced. A short preface into the coding theory follows, GRS codes are described and McEliece and Niederreiter cryptosystems are introduced, both as representatives of post-quantum cryptography. The following part of the thesis is dedicated to the attack itself. It is showed how one uses the group action, the process of the attack is also described in detail and its computing complexity is mentioned. Everything is illustrated by examples.