

This bachelor thesis deals with application of MR spectroscopy for determination of metabolite signal intensities and chemical changes in human liver. Measurements were performed in a magnetic field with induction 3T using proton and dual proton/phosphorus surface coils. First we did experiments with three chemical solutions. Then we measured MR spectrums of 28 healthy volunteers who were divided into four groups by gender and body mass index (BMI). During measurements with phantoms we found out dual coil range and inappropriateness of adiabatic pulses usage. Also we realized that it would be necessary to use buffer solutions. During measurements with healthy volunteers we found out that it is necessary to normalize signal intensities by water or total phosphate, however, it would not be necessary to use correction factors for groups comparison with different sex and BMI.