

The sensory disorders are one of the main symptoms of the neuropathy.

Examination and estimation of the level of the Neuropathic disease is main target of the comprehensive examination method "Quantitative sensory testing". One part of this group of tests is Quantitative estimation of thermal thresholds. This method is based on the special device called "Thermo-electric Stimulator" (TES). The main aim of this thesis is to design and develop this kind of device and accomplish some functional tests with that device.

Values acquired from this testing are important for comparison with values acquired from the relevant studies. The TES was designed in basic configuration necessary for the right and complete examination of the thermal thresholds. The comparison wasn't exhaustive but values acquired by the thermoelectric stimulator are commonly corresponding with hypohetic values. Last but not least target of this thesis is to bring in some suggestions of possible upgrades to automatize thermal threshold estimation procedure or make some possible suggestion of alternative design of the Thermoelectric Stimulator.