Abstract

Safe road is highly recognized as a priority in the northern countries where the low temperature becomes a risk for the citizen. The creation of ice on the roads causes thousands of accidents throughout winters. In this thesis, a deep study of ice measurement on the road surface is presented. The investigation is related to the project "Road surface condition monitoring forecasting and notification system to improve traffic safety in Estonia and Nordic countries." Extensive measurement and analysis were required to identify the proper values to attain the state of the road. The results are hardware, software prototype that can identify four road conditions such as dry, water, snow or black ice, and ice, followed by visualization on an Android Application.

This thesis is written in English and is 76 pages long, including 7 chapters, 44 figures, and 4 tables.