

Topic	Numerical modelling of meteorological processes an climate
Topic is suitable for	<ul style="list-style-type: none"> • practical works of bachelor students (suitable when graduation thesis is from related subject) • graduation thesis of bachelor students • practical works of master students (suitable when graduation thesis is from related subject) • graduation thesis of master students
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Annotation	<p>Modern meteorology and climatology are largely based on numerical modelling of the processes of the atmosphere and hydrosphere, cryosphere and biosphere. Numerical models require large computing facilities and usually implies working with supercomputers.</p> <p>TTÜ MSI uses limited area meteorological and regional climate models. These can be used for simulation of atmospheric processes for research purposes or for development work with the aim to improve the model.</p> <p>The work involves experimenting with numerical model on the supercomputer and subsequent data analysis (comparison with observations, statistics, visualization, spectral analysis etc).</p> <p>The emphasis of the topic is on numerical modelling. However the topic may include tasks of applying modern observation technologies (radars, satellites, drones).</p>
Expectation for candidate	To participate in the field of research requires good knowledge of classical physics, working with equations of mathematical physics and programming skills. The work on computers implies as a rule an acquaintance with some operating system of UNIX family. Though for the beginner the skills don't have to be very deep immediately, the student should possess a will and ability to develop him/herself in these subjects. Good signs of the existence of these abilities are joy from finding independently the solution of a physical or mathematical task and using computer for more than just consuming media, communicating or text editing.