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A spectropolarimeter to study the auroral polarisation spectrum.

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The polarisation of the auroral lines represents a new observable for the auroral studies. After the polarisation of the red line, which will allow to reach information on the processes in the emission region, it is important to measure the polarisation of other lines of the auroral spectra. In order to do this, a new spectropolarimeter has been built. The concept is to use a $\frac{1}{2}$ wave plate and a Wollaston prism to separate the polarisation states.
The instrument covers wavelength between 400nm and 700nm. It will be possible to measure the polarisation N2+ (427nm) line or N2 lines, etc. Those lines are emitted at lower altitudes compare to the red one which will allow to reach information on the processes in other regions. It will also be easier to calibrate the polarisation degrees by using the fact that the very intense auroral green line cannot be polarised and will be considered as a reference.
The instrument will be tested in Svalbard in February 2012