

## **Bachelor thesis review**

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### **Spectrometric attachment**

The goal of the thesis was to design and make a spectrometric attachment to a mobile phone. A way how to assign a wavelength scale to the spectrum taken was a part of the design, too.

In the theoretical part, the author explains the principle of spectrometry and briefly describes the optical phenomena involved. Also a summary of possible applications are given. Here, the thesis would benefit from a more precise and thorough explanation of the optical principles. The images used are not always well related to the discussed topic.

The student did the calculations needed for the optical design, made a holographic grating, measured the lens's parameters, designed the mechanical part. Also one measurement with the spectrometer was performed and the instrument was calibrated.

The thesis text is well organised, formally correct. The calculations are not shown, just the results. The grating making and the lens' measurements are described poorly. The slit width measurement is not mentioned, neither its influence on the actual resolving power. Figures in the attachment have no depictions.

The work was complex, the student had to deal with optical phenomena that were not a part of his study programme. Still I lacked more independence and effort – a steady guidance from my side was needed. The calibration consisted of a manual measurement of spectral lines distance only, for a single spectrum. However, I appreciate that the device was finally made and proved working correctly.

I recommend the work for defence and evaluate it by grade

C, good

Question: what is the actual slit width and how does it affect the resolving power?

Praha 26.1.2020

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