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## PS2-21: Comparison of One- and Two-Crystals Schemes for Dual Wave X-Ray Absorptiometry

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Nowadays X-ray absorptiometry is widely used in the X-ray structural analysis [1]. Moreover, this approach can be applied to elemental analysis of substance [2]. Another important applied task in which X-ray absorption approach is used is content control of components in media containing limited number of fractions, e.g. composition control of two- and three-component media that industry needs [3]. The authors have proposed the method of dual wave x-ray absorptiometry [4] which means absorption factors analysis in two X-ray spectral lines. Since the primary radiation, which penetrates an investigated object and weakens in a varying degree depending on component composition of the object, is information carrier, the main limiting factor for sensitivity of the method is registered X-ray beam intensity. Two approaches can be used to increase the intensity. The first one is concentrating X-ray optics such as multicapillary half-lenses. Besides, use of optics makes it possible to carry out analysis with lower current of the source and therefore extend its lifespan. The second approach is optimization of X-ray monochromatization scheme. In this report possibility of multicapillary optics use for increased initial X-ray beam intensity is reviewed and comparison of the one- and two-crystals monochromatization schemes is made.

### References

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4. A. S. Gogolev, R. O. Rezaev and Yu. M. Cherepennikov, Patent Application RU 2014122059 (2014)

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