

QUANTITATIVE TEXTURE ANALYSIS

Moscow Institute of Physics and Technology (National Research University)

Degree or qualification is awarded: **PhD (Candidate of Science)**

Language of study: **English**

Mode of study: **full-time**

Duration: **4 years**

Availability of free education: **yes**

Price: **375 000 RUB**

Programme webpage at the university website: <https://eng.mipt.ru/programs/quantitative-texture-analysis/>

Programme curator: **Denis Ustyuzhaninov**

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Entry requirements:

- Master's degree / equivalent in a related field
- B2 level of English
- Good track record of publications related to the topic of the intended research
- Strong research proposal 1,500 - 3,500 words

Research supervisor:

[Dmitry Nikolayev](#)

PhD

Supervisor's research interests:

Crystallographic texture is a collection of crystalline orientations in a polycrystalline sample. The importance of a texture lies first in its direct relationship with material properties and second as a method of fingerprinting the material history. My research interests are connected with neutron texture measurements, processing and interpretations of constructional, geological, biological and ceramic samples

Research highlights:

Neutron texture measurements are fulfilled at the SKAT diffractometer situated at beamline 7 of the pulsed reactor IBR2 in the FLNP JINR. Most of the samples are provided from German, Polish, Russian, Romanian and Czech universities.

Supervisor's specific requirements:

- Crystallography
- Programming
- Strong mathematical background

Main publications:

- Nikolaev D., Lychagina T., Pakhnevich A. Experimental neutron pole figures of minerals composing the bivalve mollusc shells // Springer Nature Appl. Sci. 2019. V. 1 № 344, <https://doi.org/10.1007/s42452-019-0355-1>
- D. Nikolayev, T. Lychagina, A.A. Zisman, E. Yashina Directly verifiable neutron diffraction technique to determine retained austenite in steel Advanced Engineering Materials, vol. 20, 2018, <https://doi.org/10.1002/adem.201700559>
- T. Lychagina, D. Nikolayev Quantitative comparison of the measured crystallographic textures, Journal of Applied Crystallography, 2016, 49(4), 1290-1299.

Specializations within this programme