

Tytuł projektu:

Spectroscopy of quantum systems by means of exact and fast localization of optical cavity resonances

Nazwa stanowiska:

Doktorant-stypendysta

Liczba stanowisk: 1

Miasto: Toruń

Link do strony www jednostki: <https://www.fizyka.umk.pl>

Wymagania:

- MSc in physics, chemistry or related field.
- According to the NCN requirements, the candidate has to be a PhD student. If the candidate is not the PhD student, he or she has to go through recruitment process to the doctoral school. This can be done after the competition for the PhD position has been resolved.
- Good knowledge of optics, spectroscopy, atomic and molecular physics.
- Experience in numerical and computational methods (knowledge of software such as Labview, Mathematica, Fortran, C++ is welcome).
- Experience in laboratory work, especially in construction of optical systems, is welcome.
- Great commitment to work.
- Analytic skills and problem-solving skills.
- Curiosity and motivation to state scientific questions. Scientific creativity.
- Math skills and proficiency in calculations.
- Written and verbal communication skills as well as presentation skills.
- Teamwork ability.
- Good command of English.

Opis zadań:

Research tasks will be carried out as part of the NCN Opus 20 project “Spectroscopy of quantum systems by means of exact and fast localization of optical cavity resonances”.

Main goals:

- development of new cavity-enhanced (CE) spectroscopy methods, for accurate and dynamic sensing of quantum systems, based on a novel idea of exact and fast localization of optical cavity resonances solely by means of frequency measurement,
- application of developed techniques for accurate measurements of molecular spectral line shapes relevant for atmospheric research of Earth and other planets.

Secondary goals:

- studying of rapid processes in the optical cavity associated with dynamic changes in absorption,
- testing of new solutions supporting the pressure metrology based on optical properties of molecules.

To find out more about the project see the link http://fizyka.umk.pl/~agata/PhD_Cygan_Opus20.pdf

Typ konkursu: Opus

Grupa nauk: ST

Termin składania ofert: 31.03.2023, 23:59

Forma składania ofert: e-mail

Warunki zatrudnienia:

Scholarship duration: 30 months with the possibility of extension.

Amount: 5000 PLN (brutto brutto) / month

Additional funds are allocated to cover participation in international conferences (1-2 per year).

Dodatkowe informacje:

The scholarship is awarded in accordance with the rules contained in the Regulations for granting research scholarships of the National Science Center introduced by the resolution of the Council of the National Science Center No. 25/2019 of 14 March 2019.

Required documents (send to PI of the project Agata Cygan, agata@umk.pl):

- Cover letter
- CV
- Copies of obtained diplomas and certificates
- Copy or scan of candidate's publications (if any)
- Information about scientific awards, scholarships and other distinctions (if any)
- Description of current research activity (if applicable)
- Consent to the processing of personal data (<https://www.fizyka.umk.pl/panel/wp-content/uploads/Zalacznik-bez-tytulu-00016.pdf>).

All documents should contain the candidate's signature or its scan.

Language of application: Polish or English.

Selected candidates will be notified individually about the date of a possible interview.

In the event of resignation of the selected candidate, the right to indicate the next candidate from the ranking list is reserved.