



The
University
Of
Sheffield.

Job Title: Research Associate (postdoctoral)
Contract Type: **Fixed term for 30 months**
Faculty: Faculty of Science
Department: Department of Physics and Astronomy
Salary: Grade 7, £31,866 - £40,322 per annum
Job Reference Number: UOS028193, <https://jobs.shef.ac.uk/>
Closing Date: **21 May 2021**

30 month post - Postdoctoral Research Associate in Twistronics

This post arises from a joint project between the University of Sheffield and the University of Manchester on Twistronics, a revolutionary approach for creating 'designer' materials. In this approach, a wide variety of properties in few-atom-thick materials can be controlled by the relative rotation (twist) between the adjacent atomic layers, a unique feature available only in 2D materials. Further advances will be made to couple such materials to various photonic devices, which will be designed and fabricated in this project.

In this post you will design and optically characterize twisted few-atomic-layer structures and devices, as well as various photonic structures. Optical characterization will include micro-photoluminescence, absorption and Raman, various microscopy techniques, and near-field optical spectroscopy with 20 nm resolution in the new centre in Sheffield, which will be open in 2021.

Structures to be studied will include semiconductors and magnetic materials. The research will be conducted in our state-of-the-art optics laboratories in Sheffield.

You will have a strong background in solid state physics and have completed or be in the final stages of your PhD in this or related discipline. Expertise in optical spectroscopy of 2D materials or other types of semiconducting devices or nano-structures is desirable.

Please send formal and informal inquiries to Prof Alexander Tartakovskii at a.tartakovskii@sheffield.ac.uk.

Further information about the group: <https://ldsd.group.shef.ac.uk/research/2d-materials/>

Further information about the supervisor: <https://www.sheffield.ac.uk/physics/people/academic/alexander-tartakovskii>