

Scientific supervisor	
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Department	Photonics Department
Laboratory	Laboratory of Cold Atoms near Surfaces
Group webpage	
<b>Proposed research topic</b>  <i>Design and testing of components for the UJ HYADES space mission</i>	
<b>Short description (&lt; 1000 characters)</b>  <p>During the internship, students will participate in the preparation of a prototype of one of the key elements of a telescope operating in deep ultraviolet, which will be launched into space on a dedicated satellite. Its task will be to observe hydrogen and deuterium around small bodies of the Solar System in order to determine the sources of water on Earth and search for new, previously unknown reservoirs.</p> <p>The aim of the research is to find the optimal configuration of hydrogen and deuterium optical filters. In particular, the aim is to find conditions enabling long-term and effective dissociation of deuterium and molecular hydrogen into atomic form. These atomic gases act as the absorption medium of the filter.</p> <p>Students will have the opportunity to gain experience in working with vacuum equipment and optical elements. People completing their internship in September may also work at the Solaris Synchrotron.</p> <p>Web page of the mission: <a href="https://www.hyades.oa.uj.edu.pl/pl/aktualnosci/">https://www.hyades.oa.uj.edu.pl/pl/aktualnosci/</a></p>	
<b>Main research tool</b>  Vacuum systems, optical elements.	
<b>Additional requirements to the candidate</b>  - interest in an experimental work	
<b>Possibility to continue student internship in the form of:</b>	
Diploma thesis (master's or bachelor's degree)	X
PhD study	X