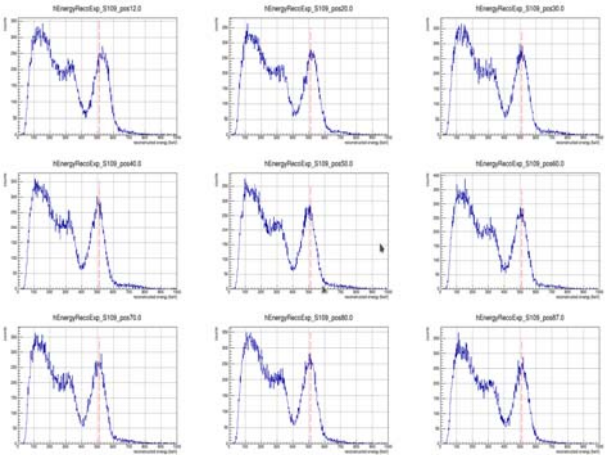


<b>Scientific supervisor</b>	
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Department	Department of Hadron Physics
Pracownia	B-0-19, SiFi-CC
Strona www grupy	<a href="https://bragg.if.uj.edu.pl/sificc">https://bragg.if.uj.edu.pl/sificc</a>
<b>Proponowany temat badań</b>	
<i>Data analysis from the SiFi-CC detector for proton therapy</i>	
<b>Short description (&lt; 1000 characters)</b>	
<p><i>The SiFi-CC project aims to build a new type of Compton camera, i.e. a two-module, position-sensitive gamma ray detector. Its target application is the recording of prompt-gamma radiation emitted during the irradiation of a patient in proton therapy, which will allow for real-time monitoring of the therapy and capturing possible deviations from the treatment plan. Such devices, not yet used in clinical practice, will allow proton therapy to be brought to an even higher level of precision and safety for patients.</i></p> <p><i>The SiFi-CC camera is a detector currently under construction consisting of thin scintillation fibers read out by silicon photomultipliers using modern readout electronics. The trainee will analyze data collected during the test experiments. Examples of tasks that can be carried out as part of the internship are:</i></p> <ul style="list-style-type: none"> <li>• <i>analysis of time- and energy spectra,</i></li> <li>• <i>energy calibration of scintillation fibers,</i></li> <li>• <i>investigation of correlations between the parameters, e.g. correction of the walk effect.</i></li> </ul> <p><i>The student will have the opportunity to get acquainted with the modern techniques and tools of data analysis.</i></p>	
<b>Main research tools:</b>	
computer, <a href="#">ROOT</a> framework	
<b>Additional requirements to the candidate</b>	
<i>knowledge of the linux environment and at least the basics of the C++ programming language, interest in experimental work, knowledge of the basics of nuclear physics</i>	
<b>Possibility to continue student internship in the form of:</b>	
Diploma thesis (master's or bachelor's degree)	X
PhD study	X