TECHNISCHE UNIVERSITÄT WIEN
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ATOMINSTITUT

TO WHOM IT MAY CONCERN

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Ref.: Letter of Recommendation for Daniel Hackl

Vienna, 30.05.2025

I head the Department of Low Temperature Physics and Superconductivity at the Atominstitut, TU Wien. Our focus lies in the characterization of materials at low temperatures, particularly superconductors, and their radiation resistance. From September 2024 to May 2025, Daniel Hackl completed his Master's thesis with us. He was a highly valuable team member, whom I would gladly welcomed as a PhD candidate in our group. However, as he has chosen to pursue a career in industry, I can wholeheartedly recommend him for positions of responsibility outside academia.

The aim of his Master's thesis was to investigate the healing of defects—caused by neutron irradiation in our reactor—through thermal treatments. To this end, the change in electrical resistance during the heating of the sample was recorded. His work included the design of the sample holder, drawing the necessary parts using Autodesk (so that they could be manufactured in our workshop), as well as the assembly and commissioning of the test setup. For the latter, he also developed the corresponding control and measurement software in Python.

The samples—commercial high-temperature superconductors—had to be prepared by completely etching away the copper layer and locally removing the silver layer (structuring). Mr. Hackl also measured the superconducting properties of the samples before and after heat treatment to study the influence of defects on superconductivity.

To quantify the defects introduced by neutrons, he determined the thermal and fast neutron flux at three irradiation positions using neutron activation analysis. He selected the required sensor materials independently and very satisfactorily after thorough literature research.

These diverse tasks demonstrate his versatility and his excellent skills in both practical and theoretical work. After a brief introduction, Daniel Hackl always worked autonomously and conscientiously, critically analyzed his results, and discussed them with colleagues and myself. As a result, he was able to solve all challenges that arose during his Master's thesis quickly and efficiently. He also handled safety-relevant aspects involving radioactive materials without any issues, in collaboration with our radiation protection team.

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His pleasant manner, openness to feedback, self-reflection, and strong teamwork skills made supervising his outstanding Master's thesis a genuine pleasure.

Due to his analytical abilities, strong initiative, and proven competence in dealing with complex technical issues, I recommend Daniel Hackl for any position where these qualities are required. I am confident that he will contribute with the same commitment and success in such roles. His solid expertise, methodical approach, dedication, and teamwork will be a great asset to any company.

Sincerely,