

博士学位論文 審査結果の要旨

芝浦工業大学大学院 理工学研究科 博士（後期）課程

博士学位論文審査委員会

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氏 名	AKASH GARG AGARWAL
論文題目	Advancements in Infiltration Growth of Bulk Ternary LRE-B ₂ Cu ₃ O _y Superconductors: Comprehensive Investigations on Growth Mechanisms, Microstructure, and Superconducting Properties (超伝導体 MgB ₂ の大量生産の進展: 経済的な製造、向上した粒子連結性、および異なるホウ素源と加工精度の影響に関する革新的な手法)
〔論文審査の要旨〕 On January 31, 2025, Mr. Akash Garg Agarwal successfully defended his PhD thesis via Zoom. The defense examination consisted of a one-hour PowerPoint presentation, followed by a one-hour Q&A session and an evaluation of the examination results. A total of 15 attendees were present. During the Q&A session, the committee members were pleased to observe that the suggestions and advice provided during the initial defense had been thoroughly incorporated into the final thesis. Several technical questions were also raised, particularly concerning the technology of bulk ternary LREBa ₂ Cu ₃ O _x production. For instance, Professor Murakami inquired about porosity in bulk (Sm,Eu,Gd)Ba ₂ Cu ₃ O _{7-δ} , which was addressed during the discussion. Additionally, Professor Takasaki asked about the potential for reducing the size of 211 secondary-phase particles to further enhance material properties. He also congratulated Mr. Agarwal on his recent publication in the <i>Journal of Applied Physics</i> (American Physical Society) and his presentation at ISS 2024 (International Symposium). Similarly, Professor Sakai provided valuable suggestions and feedback, offering further congratulations on the successful completion of the thesis, research, and defense presentation. Lastly, Professor Isabella shared insightful comments and recommendations, which were incorporated into the final thesis. Mr. Agarwal addressed all questions to the satisfaction of the committee members. Ultimately, the committee unanimously agreed to pass his final PhD defense.	