

# 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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審査委員 Prof. John Durrell

氏 名	Yiteng XING
論文題目	Densification of MgB <sub>2</sub> superconducting cryomagnets: Synthesis and physical properties studies
〔論文審査の要旨〕 On July 28th, 2022, the final PhD defense was successfully conducted by zoom for the candidate: Ms. Yiteng Xing. The final defense examination consisted of 1 hour ppt presentation followed by a 1 hour Q&A section and an evaluation of the examination results. 40 members including nine defense committee members have attended as audience. The Q&A section had been completed successfully, and all committee members were satisfied with their suggestions and advice given in the first defense has been incorporated in the final thesis. Further, several other questions, especially related to technology of bulk MgB <sub>2</sub> production by Spark Plasma Sintering (SPS) technique; i) its advantages and disadvantages compared to MgB <sub>2</sub> and bulk REBa <sub>2</sub> Cu <sub>3</sub> O <sub>y</sub> superconductor, ii) the most important contribution of the thesis, iii) the distribution of gains in the sample sintered by tungsten carbide mold, iv) the quality of the grain boundaries if the samples were prepared by tungsten carbide mold, v) the anisotropy influence on the superconducting properties of MgB <sub>2</sub> samples fabricated by SPS, vi) the ex-situ samples to measure the functional properties etc., The committee members were satisfied by the student's response. Eventually, all nine PhD committee members were satisfied. As a result, everyone had accepted to <i>pass</i> the final PhD defense.	