

A Lecture on Topological Defect

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1 What is this

This is a lecture note prepared for two sets of “intensive lectures”:¹

- at Tohoku University, Oct. 11-13, 2023, and
- at Yukawa Insititute, Nov. 29-1, 2023.

In this lecture I will try to explain the constructions of topological defects corresponding to generalized symmetries. Due to lack of time and (more significantly) my understanding, the lecture will focus on bosonic systems, and the generalization to fermionic systems is left for the readers/audiences.

1.1 Other Lectures/Reviews

Recently there has been a surge of lecture notes/ review articles on generalized symmetries. The ones I have noticed are

Because this lecture will focus on the fundamental aspects of the topic and will not connect very well with the existent literature (so sorry about that), readers/audiences are strongly encouraged to refer to at least one of them, or something similar.

Also, about conventional symmetries and their anomalies, there are nice old lectures. The ones I would recommend:

¹In Japan, an “intensive lecture” is a format of a lecture course where a lecturer (usually from another university) gives lectures in consecutive days filling 7-9 slots in usually 3 days.

2 Introduction

This is a book created from markdown and executable code.

See Knuth (1984) for additional discussion of literate programming.

2.1 section

2.1.1 subsubsection

3 Summary

In summary, this book has no content whatsoever.

References

Knuth, Donald E. 1984. “Literate Programming.” *Comput. J.* 27 (2): 97–111. <https://doi.org/10.1093/comjnl/27.2.97>.