Examples

Taper

January 24, 2017

Abstract

Nothing here.

Contents

1 Nomenclature

aa is nothing.

here shows a label

this is a todo

2 Diagram

Bad diagrams

$$E \xrightarrow{\rho} F \quad E \xrightarrow{\rho} F$$

Good diagrams

$$E \xrightarrow{\rho} F$$
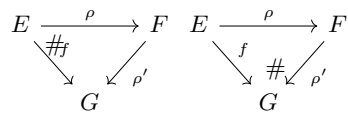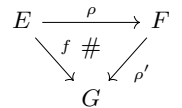
$$\begin{array}{ccc}
 & G & \\
{}^{f}\nearrow & \nwarrow & \\
 & \# & \\
E & \xrightarrow{\hspace{1cm}} & F
\end{array} \qquad\qquad \rho'$$

$$\rho$$

$$\begin{array}{ccccc}
X & \xrightarrow{\ f\ } & Y & \overset{g}{\underset{h}{\rightleftarrows}} & Z \\
\cup & & \cup & & \\
f^{-1}B & & B & &
\end{array}$$

Or, with something "tikzset" in the preamble, we can

$$\begin{array}{ccc}
X & \xrightarrow{\ f\ } & Y \\
\cup & & \cup \\
f^{-1}B & & B
\end{array}$$

3   Table

Tentative Schedule:

Table 2: caption

#		Due date
1. Summarise the review paper		December, 2016
2. Learn related mathematical tools (homotopy thoery, group cohomology, etc.)		April, 2017
3. Play with toy models such as the $1D$ quantum walk model		Faburary, 2017
4. Possible research topics:		July, 2017
4.1	classifying topological materials in new symmetry groups, such as the space groups;	
4.2	finding new ways to classify in the non-interacting picture;	
4.3	experiment about the effectiveness of existing;	As above
4.4	explorer approaches to the classification in interacting.	

left   right   left2

4 Anchor

`sec:Anchor`

References

[1] s

Nomenclature

aa   aaa

5 License

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Table 1: Classification

Symmetry	Spatial Dimension	Result	Other Keywords
T	0	An intger: the number of particle-occupied Kramers doublet states	
T	1	None	
T	2	$\mathbb{Z}_2$	
T	3	$\mathbb{Z}_2$	$3D$ crystals have additional $3\mathbb{Z}_2$ invariant⇒ "weak topological insulators
Q(?)	2	Characterized by μ in units of e^2/h	TKNN
Q(?)	even d	Topological invariant (k-th Chern number)	
Q(?)	0	number of single-particle states with negative energy ($E < E_F = 0$), which are filled with electrons.	
T& Q			
No T & No Q	0	$\mathbb{Z}_2$	
No T & No Q	1	$\mathbb{Z}_2$	"majorana chain"
No T & No Q	2	Topological number is integer.	Even-odd effects.