CP Violation in B Decay

Final

Lecture #19

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Final Lecture

1. What are the three types of CP Violation?
   What are the conditions for each type to occur?
   Which types do we expect to observe in Bd decays?
   Which type is most useful for testing the Standard Model?

2. What is the Unitarity condition that is important for Bd decays?
3. What predictions can you make for decays \( B \rightarrow D \phi \)?

What assumptions go into these predictions?

How reliable do you consider each assumption to be?

4. When is isospin important in \( B \) decays?

What two isospin labels are appropriate for decay amplitudes?

In a given decay there can be tree and penguin contributions of the same isospin labels—does this tell us anything about relationships between them?

Catalogue the isospin possibilities for \( B \rightarrow \omega \pi \pi \). What isospin amplitudes contribute for \( B \rightarrow \omega \pi \pi \)?

Why?