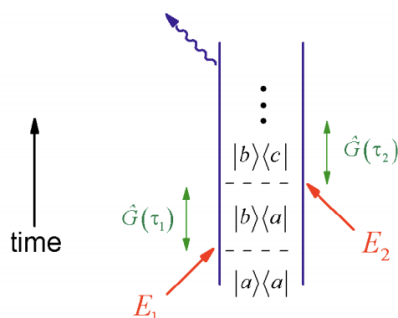


## 2.1: Feynman Diagrams

Feynman diagrams are the easiest way of tracking the state of coherences in different time periods, and for noting absorption and emission events.

1. Double line represents *ket* and *bra* side of  $\rho$ .
2. Time-evolution is upward.
3. Lines intersecting diagram represent field interaction. Absorption is designated through an inward pointing arrow. Emission is an outward pointing arrow. Action on the left line is action on the *ket*, whereas the right line is *bra*.
4. System evolves freely under  $H_0$  between interactions, and density matrix element for that period is often explicitly written



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