

$$P_{12} =$$

The image displays a series of Feynman diagrams representing the perturbative expansion of the propagator P_{12} . The diagrams are arranged in two rows, separated by plus signs, and end with an ellipsis indicating the series continues.

- Row 1:**
 - Diagram 1:** A bubble diagram with two external wavy lines labeled 1 and 2. The bubble consists of two curved lines with arrows pointing clockwise.
 - Diagram 2:** A bubble diagram with two external wavy lines labeled 1 and 2. Inside the bubble, there is a self-energy loop with two vertices labeled 3 and 4. The loop is formed by two curved lines with arrows pointing clockwise.
 - Diagram 3:** A bubble diagram with two external wavy lines labeled 1 and 2. Inside the bubble, there is a self-energy loop with two vertices labeled 3 and 4. The loop is formed by two curved lines with arrows pointing clockwise.
 - Diagram 4:** A bubble diagram with two external wavy lines labeled 1 and 2. Inside the bubble, there is a vertical wavy line connecting two vertices labeled 3 and 4. The bubble is formed by two curved lines with arrows pointing clockwise.
- Row 2:**
 - Diagram 5:** A chain diagram with two external wavy lines labeled 1 and 2. It consists of two vertices labeled 3 and 4 connected by a wavy line. Each vertex is part of a self-energy loop with two curved lines and arrows pointing clockwise.
 - Diagram 6:** A chain diagram with two external wavy lines labeled 1 and 2. It consists of three vertices labeled 3, 4, and 5 connected by wavy lines. Each vertex is part of a self-energy loop with two curved lines and arrows pointing clockwise.
 - Diagram 7:** A bubble diagram with two external wavy lines labeled 1 and 2. Inside the bubble, there is a vertical wavy line connecting two vertices labeled 3 and 4. The bubble is formed by two curved lines with arrows pointing clockwise.

The expansion concludes with an ellipsis $+\dots$.