

$$\partial_t \Gamma_k[\Phi] = \frac{1}{2} \left(\text{Diagram 1} - \text{Diagram 2} - \text{Diagram 3} + \frac{1}{2} \text{Diagram 4} \right)$$

The equation shows the time derivative of the effective action $\Gamma_k[\Phi]$ as a sum of four Feynman diagrams, each representing a one-loop contribution with a vertex marked by a circle with an 'X' at the top.

- Diagram 1:** A magenta loop with a wavy internal line, representing a scalar loop.
- Diagram 2:** A dashed black loop with a small arrow pointing clockwise, representing a fermion loop.
- Diagram 3:** A solid black loop with a small arrow pointing clockwise, representing a fermion loop.
- Diagram 4:** A blue loop with a double line and a small arrow pointing clockwise, representing a fermion loop.