

$$\partial_t \Gamma_k[\bar{g}, 0] = \frac{1}{2} \left( \text{Diagram 1} - \lambda \text{Diagram 2} + \frac{1}{2} \text{Diagram 3} - \text{Diagram 4} + \frac{1}{2} \text{Diagram 5} - \text{Diagram 6} \right)$$

The equation defines the time derivative of the effective action  $\partial_t \Gamma_k[\bar{g}, 0]$  as a sum of six Feynman diagrams, each multiplied by a coefficient. All diagrams feature a central vertex represented by a circle with an 'X' inside.

- Diagram 1:** A solid double-line circle (representing a gluon loop) attached to the vertex.
- Diagram 2:** A dotted circle (representing a ghost loop) attached to the vertex, with a coefficient  $\lambda$  in front.
- Diagram 3:** A dashed circle (representing a fermion loop) attached to the vertex, with a coefficient  $\frac{1}{2}$  in front.
- Diagram 4:** A solid single-line circle (representing a fermion loop) attached to the vertex.
- Diagram 5:** A wavy circle (representing a scalar loop) attached to the vertex, with a coefficient  $\frac{1}{2}$  in front.
- Diagram 6:** A dotted circle (representing a ghost loop) attached to the vertex.