

The image shows a Feynman diagram expansion. On the left, a wavy line is connected to a dashed line through a single vertex (represented by a black dot). This is set equal to the sum of four diagrams labeled (a), (b), (c), and (d).

- (a)** A wavy line is connected to a dashed line through a vertex. An external wavy line, labeled  $F_{ext}$ , is attached to the vertex.
- (b)** A wavy line is connected to a dashed line through a vertex. A loop of two fermion lines (represented by solid lines with arrows) is attached to the vertex.
- (c)** A wavy line is connected to a dashed line through a vertex. A fermion line (solid line with an arrow) is attached to the vertex.
- (d)** A wavy line is connected to a dashed line through a vertex. A fermion line (solid line with an arrow) is attached to the vertex.