

## 6.1 Tunneling, Interference, and Measurement

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### 1 Tunneling, Interference, and Measurement

Unified Configuration Theory provides predictive and intuitive explanations for quantum phenomena traditionally framed as exotic or paradoxical. Within the geometric framework of configuration space, these effects emerge naturally from morphing dynamics, curvature gradients, and contextual boundaries.

- **Tunneling** — interpreted as intrinsic morphable flow between phase zones, guided by curvature continuity and topological permissibility.
- **Interference** — modeled as constructive or destructive superposition of morphing waves across phase boundaries, with curvature modulation shaping the overlap.
- **Measurement** — reframed as contextual collapse or fixation, where observer-induced boundaries constrain morphing trajectories and stabilize configurations.

These phenomena are not exceptions—they are manifestations of geometric modulation within configuration space. Potential wells, phase surfaces, and contextual zones guide and constrain configuration evolution. UCT thus transforms quantum behavior from probabilistic abstraction into reproducible geometric logic.

## 5.1 Tunneling, Interference, and Measurement

Unified Configuration Theory provides predictive and intuitive explanations for quantum phenomena traditionally framed as exotic or paradoxical.

- **Tunneling** is intrinsic morphable flow between phases;
- **Interference** is constructive or destructive superposition/morphing waves across phase boundaries;
- **Measurement** observer contextuality shapes morphing trajectories via collapse or fixation.

These phenomena are still manifestations of geometric modulation of configuration morphing. potential wells phase boundaries relativity guide.

Figure 1: Tunneling, interference, and measurement visualized as morphing dynamics across curvature gradients and contextual boundaries.