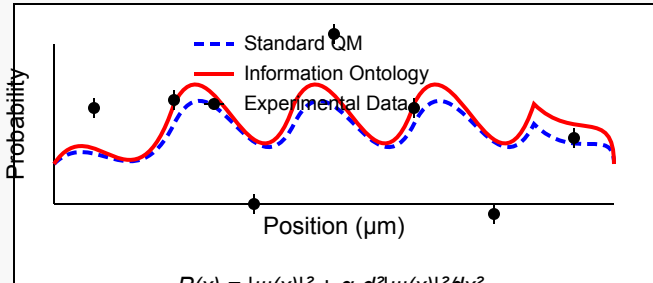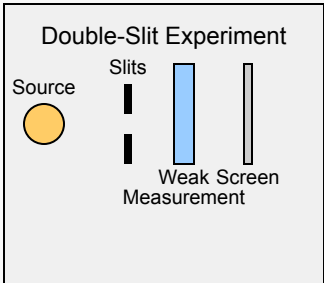# Testable Predictions of Information Ontology
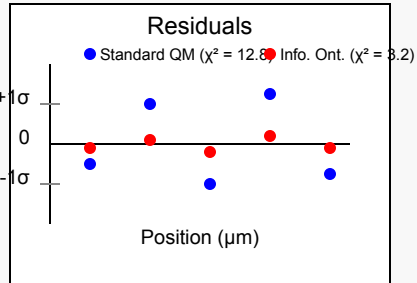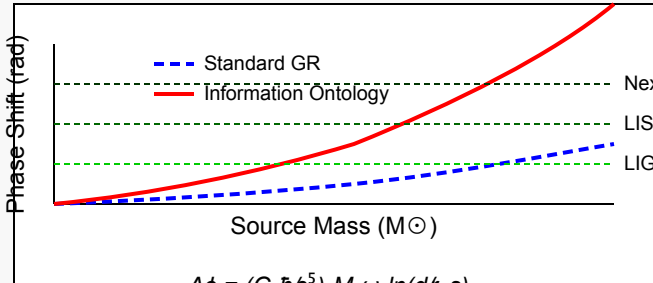
A: Quantum Interference Modifications

Double-Slit Experiment

Source
Slits
Weak Screen
Measurement

Standard QM (dashed)
Information Ontology (solid)
Experimental Data

Probability
Position (μm)

Residuals

Standard QM ($\chi^2 = 12.8$) · Info. Ont. ($\chi^2 = 3.2$)

$+1\sigma$
0
-1σ
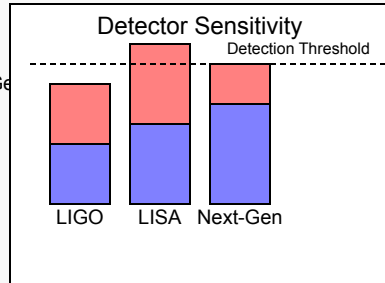Position (μm)

$$P(x) = |\psi(x)|^2 + \alpha \cdot d^2|\psi(x)|^2/dx^2$$
$$\alpha = (1.35 \pm 0.2) \times 10^{-15}\ m^2$$

B: Gravitational Wave Phase Shift

Gravitational Wave Detection

Source
Detector

Standard GR (dashed)
Information Ontology (solid)

Next-Gen
LISA
LIGO

Phase Shift (rad)
Source Mass (M⊙)

Detector Sensitivity

Detection Threshold
LIGO   LISA   Next-Gen
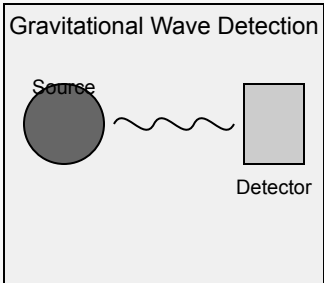
$$\Delta\phi = (G \cdot \hbar/c^5) \cdot M \cdot \omega \cdot \ln(d/r\_s)$$

C: Black Hole Radiation Spectrum

Black Hole Radiation

Standard Hawking (dashed)
Information Ontology (solid)
Maximum Divergence

Spectral Density
Frequency (ω)

Observation Strategy

Detection Threshold
Current   Next-Gen   Future
Space Telescope Sensitivity
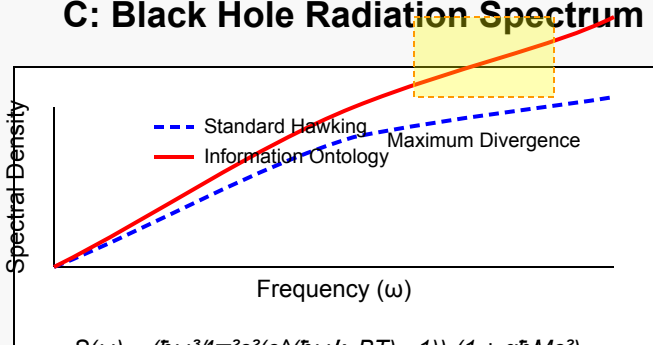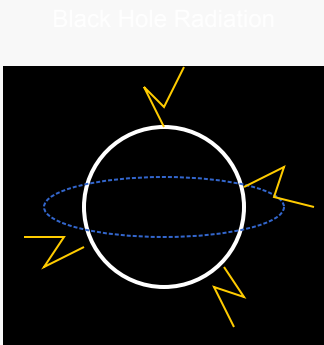
$$S(\omega) = (\hbar\omega^3/4\pi^2 c^2(e^{\wedge}(\hbar\omega/k\_BT) - 1)) \cdot (1 + \alpha\hbar/Mc^2)$$
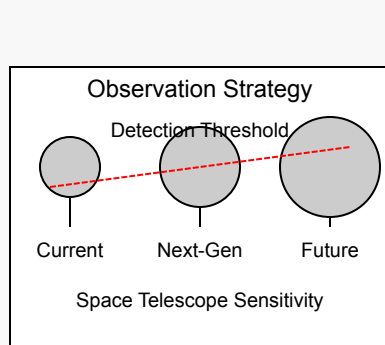
Figure 2. Experimental predictions and preliminary verification of information ontology