Applications

- Simulating gravitational energies in a galaxy through quantum circuits.
- Using I2C systems to capture external conditions and integrating them into an interactive Qiskit Metal design.
- Experimenting with complex functions (general relativity and quantum mechanics) in combined simulators.
- The **GPIO and I2C code** initializes sensors to capture physical environment data (temperature, pressure, etc.).
- The obtained data could then feed a quantum model simulating phenomena like energy expansion or gravitational collapse using parameters such as magnetrons or black holes.

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2. Transformation Example

The following code demonstrates how to structure this integration:

```
from qiskit_metal import designs, MetalGUI
from qiskit_metal.qlibrary.qubits.transmon_pocket import TransmonPocket
import matplotlib.pyplot as plt

def simulate_blackhole(sensor_energy):
    # Create quantum design
    design = designs.DesignPlanar()
    gui = MetalGUI(design)

    # Create a transmon symbolizing a "black hole"
    blackhole_qubit = TransmonPocket(design, 'BlackholeQubit', options=dict(pos_x=sensor_energy,
pos_y=0.0))
    gui.rebuild()

    # Adjust and visualize
    gui.edit_component('BlackholeQubit')
    gui.autoscale()
    plt.title("Quantum Black Hole Model")
    gui.screenshot()

simulate_blackhole(energy_magnetron)
```