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(57) Abstract :

The present invention discloses an energy quantization apparatus using discrete vibrational membranes (102) actuated by piezoelectric elements (104) and monitored through optical sensors (108). A control unit (106) modulates excitation frequencies to selectively stabilize resonant modes, representing quantized energy states. A visual interface (110) displays corresponding energy levels in real time, while a laser grid (112) enhances nodal pattern visibility. The system provides a hands-on, modular, and accurate method for demonstrating mechanical analogs of quantum energy quantization in educational and research settings.

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