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(57) Abstract :

A tunable optical diffraction kit (100) with integrated real-time angular dispersion tracking (160) is disclosed. The invention includes a rotatable diffraction grating assembly (130), motorized control unit (140), angular encoder (150), and a digital output interface (170). It enables precise measurement of diffraction angles across multiple wavelengths with instant visualization and data logging. The modular optical rail (120) and holders (110) allow dynamic experimentation in optics education and research, offering both flexibility and high accuracy in wave behavior analysis.

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