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(57) Abstract :
The invention provides a smart fluid dynamics table (100) equipped with ultrasonic sensors (140), turbulence probes (150), and a processing unit (160) to detect and visualize laminar-turbulent flow interfaces. A transparent flow chamber (120) allows real-time observation, while an interactive display (170) renders color-coded overlays of flow regimes. The system enhances accuracy in educational demonstrations and experimental validations by offering digital flow profiling and customizable flow channel setups, enabling advanced fluid dynamics studies across various fluidic environments.

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