(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :18/07/2025

(21) Application No.202511068566 A

(43) Publication Date : 08/08/2025

(54) Title of the invention : A DUAL-AXIS ROTATIONAL MOTION ANALYZER FOR CONSERVATION OF ANGULAR MOMENTUM

(51) International classification :G09B23/10, G01C19/5712
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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(57) Abstract :
The present invention discloses a dual-axis rotational motion analyzer (100) comprising a motorized spindle (103), horizontal beam (105), adjustable mass carriages (107), motion sensors (108), and torque handle (112). It enables real-time demonstration and analysis of angular momentum conservation, moment of inertia, and gyroscopic precession. Integrated sensors and a microcontroller (110) provide real-time feedback on angular velocity and torque through a display unit (111). The system is modular, portable, and ideal for physics education and experimental mechanics.

No. of Pages : 14 No. of Claims : 5