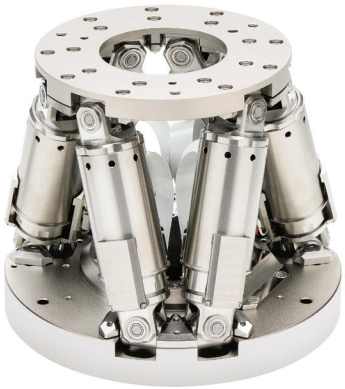
NEW PRODUCTS

Focus on software, data acquisition, and instrumentation

The descriptions of the new products listed in this section are based on information supplied to us by the manufacturers. PHYSICS TODAY can assume no responsibility for their accuracy. For more information about a particular product, visit the website at the end of its description. Please send all new product submissions to ptpub@aip.org.

Andreas Mandelis



Compact hexapod for photonics and optics alignment

The H-811.S2iHP compact hexapod for photonics and optics alignment from PI uses six low-friction, long-life actuators and 12 precision Cardan joints with offset axes to enhance stiffness. The actuators provide a resolution of 1.4 nm; the platform delivers in-position stability of 3 nm. With a linear velocity of 20 mm/s, a rotary velocity of 28°/s, a load capacity of 5.5 lbs, and fast acceleration, the hexapod is suitable for automating tasks such as alignment, testing, and assembly of high-resolution miniature lenses and photonics components. It offers linear travel ranges of up to 34 mm in XYZ and rotary motions (pitch, yaw, and roll) of up to 42°. A user-programmable pivot point further facilitates the alignment of lenses, fiber optics, and photonics systems. Low-friction precision ball screws, precision joints, and long-life brushless motors ensure reliability and durability. A powerful hexapod controller for the H-811.S2iHP features advanced multiaxis alignment routines that enable tasks such as optimization, tracking, array alignment, and first light detection. ***PI (Physik Instrumente) LP***, *16 Albert St, Auburn, MA 01501, www.pi-usa.us*

Mathematical programming software

Mathworks' Release 2024b, a new addition to its MATLAB and Simulink software, introduces updates designed to scale, automate, and streamline user workflows for wireless communications systems, control systems, and digital signal processing applications. The 5G Toolbox now enables the exploration of 6G waveform generation and signal-quality assessments of 5G waveforms. The DSP HDL Toolbox (DSP denotes digital signal processing, and HDL, hardware description language) currently provides hardware-ready Simulink blocks and subsystems for developing signal processing applications. Release 2024b adds an interactive DSP HDL internet protocol Designer app for configuring DSP algorithms and generating HDL code and verification components. A hardware support package is also now available for the Qualcomm Hexagon Neural Processing Unit, the technology embedded within the Qualcomm Snapdragon family of processors. It leverages Simulink and model-based design to deploy production-quality C code across various Snapdragon processors for DSP applications. ***The MathWorks Inc***, *1 Apple Hill Dr, Natick, MA 01760, www.mathworks.com* PT