



BILLING CODE 3510-DS-P

DEPARTMENT OF COMMERCE
International Trade Administration
Application(s) for Duty-Free Entry of Scientific Instruments

Pursuant to Section 6(c) of the Educational, Scientific and Cultural Materials Importation Act of 1966 (Pub. L. 89-651, as amended by Pub. L. 106-36; 80 Stat. 897; 15 CFR part 301), we invite comments on the question of whether instruments of equivalent scientific value, for the purposes for which the instruments shown below are intended to be used, are being manufactured in the United States.

Comments must comply with 15 CFR 301.5(a)(3) and (4) of the regulations and be postmarked on or before (Insert date 20 days after publication in the FEDERAL REGISTER). Address written comments to Statutory Import Programs Staff, Room 3720, U.S. Department of Commerce, Washington, D.C. 20230. Applications may be examined between 8:30 A.M. and 5:00 P.M. at the U.S. Department of Commerce in Room 3720.

Docket Number: 14-031. Applicant: Harvard University, 11 Oxford St., Cambridge, MA 02138. Instrument: Electron Microscope. Manufacturer: JEOL Ltd., Japan. Intended Use: The instrument will be used to examine the properties of materials and physics associated with nanoscale materials systems, such as semi-conducting systems found in computers and electronic devices fabricated from carbon, silicon, silicon-oxide, germanium and metals such as copper, gold, platinum, aluminum, aluminum oxide and ruthenium. The properties studied will include materials composition chemical analysis, electronic band structure, density of states and dopant atoms distribution. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: November 17, 2014.

Docket Number: 14-032. Applicant: New Mexico Institute of Mining and Technology, 801 Leroy Place, Socorro, NM 87801. Instrument: DelayLine Trolley (DLT). Manufacturer: University of Cambridge/Cavendish Lab, United Kingdom. Intended Use: The instrument will be used within the Magdalena Ridge Observatory Interferometer (MROI) to equalize path lengths traveled by the light from a target object, via the telescopes, to the point where

interference takes place, by acting as a continuously movable retro-reflector. Each trolley moves continuously within an evacuated pipe in order to introduce the optical path delay appropriate for the target, time of observation, and inter-telescope separations in use. For most of the sky to be accessible, a delay range approximately equal to the longest inter-telescope separation must be available, requiring an unprecedented monolithic delay line length of almost 200m. The instrument is essentially a cat's-eye assembly that is flexure-mounted and voice coil actuated on a motorized wheeled carriage, which runs directly on the inner surface of the delay line pipe, not on pre-installed rails. Its position is precisely measured by a laser metrology system and computer controlled so as to introduce the appropriate optical path compensation as a function of time. The following specifications are required for the research: a focus on model-independent imaging as opposed to astrometric or precision phase or visibility measurement, a wavelength of operation that covers both the visible and near infrared, between 600 nm and 2400 nm, accommodation for baseline lengths as long as 250m, a concern for polarization fidelity in the image, and a requirement to reach a limiting group-delay tracking magnitude of $H=14$ to allow observations of extragalactic targets while tracking on the science object rather than a nearby reference star. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: November 14, 2014.

Docket Number: 14-033. Applicant: University of South Carolina School of Medicine, 6439 Garner's Ferry Road, Columbia, SC 29208. Instrument: Electron Microscope. Manufacturer: JEOL Ltd., Japan. Intended Use: The instrument will be used to examine the ultrastructural changes in cells and tissues in response to a disease process and subsequent treatment of the disease through a variety of protocols, in biomedical research samples such as heart, colon, and skeletal muscle, to study cardiovascular disease, cancer and inflammation. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: November 26, 2014.

Docket Number: 14-034. Applicant: National Institutes of Health, 50 South Dr., Bldg. 50, Rm. 1517, Bethesda, MD 20892-8025. Instrument: Falcon II Direct Detection Camera. Manufacturer: FEI Company, the Netherlands. Intended Use: The instrument will be used in cryo-electron microscopy experiments, to visualize biological specimens suspended in vitreous ice involving recording electron micrographs of the highest possible quality and subjecting them to digital image analysis to elicit the maximum amount of structural information and interpretation, taking into account all pertinent complimentary data. Sensor specifications required for this research include a pixel size of $\sim 14 \mu\text{m}$ which predicates a magnification of $\sim 100 \text{ kx}$, optimal performance as measured by Detective Quantum Efficiency at a typical dose

rate of 10-20 e/pixel/second, and protection of the sensor against accidental high-dose exposures to the microscope's electron beam. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: December 19, 2014.

Docket Number: 14-036. Applicant: University of Michigan, 109 Zina Pitcher Place, Ann Arbor, Michigan 48109-2200. Instrument: Electron Microscope. Manufacturer: JEOL Ltd., Japan. Intended Use: The instrument will be used to study tissue and cells to assist in the understanding of cancer cells, morphology, and general histochemical analysis, using diffraction analysis of organic compounds. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: December 19, 2014.

Docket Number: 14-037. Applicant: University of Arizona, 1629 E. University Blvd., Tucson, AZ 85721. Instrument: Electron Microscope. Manufacturer: FEI Company, Czech Republic. Intended Use: The instrument will be used to characterize the structural and compositional properties of a wide variety of materials including meteorites, samples of the moon, solar cell structures, polymers, thin-film semiconductors and other technologically relevant materials, in order to determine the origins of our solar system and the moon and the underlying physics of technologically relevant materials for solar cells and optical devices. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: December 19, 2014.

Docket Number: 14-038. Applicant: University of North Dakota, 243 Centennial Drive, Stop 8153, Grand Forks, ND 58202-8153. Instrument: Electron Microscope. Manufacturer: FEI Company, Czech Republic. Intended Use: The instrument will be used to understand ore mineralogy and texture from upstream ore characterization and metallurgical testing to mineral and drilling processing, as well as to create digital mineral and texture maps of cores, rocks, soil and sediment. The instrument will provide surficial topo-morphological image analysis, lithotype, porosity characteristics and texture properties, accompanying quantitative chemical composition analysis made possible by the equipped EDS detector. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: December 23, 2014.

Docket Number: 15-001. Applicant: University of Kentucky, 177 Anderson Tower, Lexington, KY 40506-0046. Instrument: Electron Microscope. Manufacturer: FEI Company, Czech Republic. Intended Use: The instrument will be used to characterize the structure and

morphology of materials such as metals and alloys, ceramic materials, polymers, and biological samples. The instrument includes a Focused Ion Beam (FIB) column for milling away material and achieving high spatial precision (2.5nm resolution for the FIB beam), as well as cutting cross-sectional trenches into samples for characterization of the internal structure. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: January 5, 2015.

Dated: January 13, 2015.

Gregory W. Campbell,
Director of Subsidies Enforcement,
Enforcement and Compliance.

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