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DEPARTMENT OF COMMERCE

International Trade Administration

New Mexico Institute of Mining and Technology, et al.

Notice of Decision on Application

for Duty-Free Entry of Scientific Instruments

This is a decision 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). Related records can be viewed between 8:30 A.M. and 5:00 P.M. in Room 3720, U.S. Department of Commerce, 14th and Constitution Ave, NW, Washington, D.C.

Docket Number: 14-032. Applicant: New Mexico Institute of Mining and Technology, Socorro, NM 87801. Instrument: Delay Line Trolley (DLT). Manufacturer: University of Cambridge/Cavendish Lab, United Kingdom. Intended Use: See notice at 80 FR 2914-15, January 21, 2015. Comments: None received. Decision: Approved. We know of no instruments

of equivalent scientific value to the foreign instruments described below, for such purposes as this is intended to be used, that was being manufactured in the United States at the time of order. Reasons: 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.

Docket Number: 14-034. Applicant: National Institutes of Health, Bethesda, MD 20892-8025. Instrument: Falcon II Direct Detection Camera. Manufacturer: FEI Company, the Netherlands. Intended Use: See notice at 80 FR 2914-15, January 21, 2015. Comments: None received. Decision: Approved. We know of no instruments of equivalent scientific value to the foreign instruments described below, for such purposes as this is intended to be used, that was being manufactured in the United States at the time of order. Reasons: 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 ~14 µm which predicates a magnification of ~100 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.

Dated: April 24, 2015.

Gregory W. Campbell
Director
Subsidies Enforcement Office
Enforcement and Compliance

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