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DEPARTMENT OF COMMERCE

International Trade Administration

University of Chicago Argonne LLC, 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). On August 19, 2019, the Department of Commerce published a notice in the *Federal Register* requesting public comment on whether instruments of equivalent scientific value, for the purposes for which the instruments identified in the docket(s) below are intended to be used, are being manufactured in the United States. *See Application(s) for Duty-Free Entry of Scientific Instruments, 84* FR 42889 (August 19, 2019) (*Notice).* We received no public comments. 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: 19-002. Applicant: University of Chicago Argonne LLC., Lemont, IL 60439-4873. Instrument: S1-S3

magnets. Manufacturer: Danfysik, Denmark. Intended Use: See *Notice* at 84 FR 42889. 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 were being manufactured in the United States at the time of order. Reasons: The instrument(s) are the components of a 4^{th} generation synchrotron accelerator, *i.e.*, the Advanced Photon Source Upgrade (APSU) accelerator. According to the applicant, APSU is a non-profit research facility which provides ultra-bright, high-energy x-ray beams to more than 5000 (and growing) scientists from across the United States. These scientists come from universities, medical schools, and other research institutions. Their research covers nearly every scientific discipline, from materials science to biology, chemistry, environmental, geological and planetary science and fundamental physics. APSU provides x-ray beams of a broad parameters that allow scientists to collect data in unprecedented detail and short time frames. According to the applicant, the research results achieved through APSU will make real and positive impact on our technologies, health, economy and fundamental understanding of the materials that make up the world.

Docket Number: 19-003. Applicant: University of Chicago Argonne LLC, Lemont, IL 60439-4873. Instrument: Canted Undulator Front-End Fixed Masks and Photon Shutters. Manufacturer: Strumenti Scientific CINEL S.R.L., Italy. Intended Use: See *Notice* at 84 FR 42889. 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 were being manufactured in the United States at the time of order. Reasons: According to the applicant, the instrument will be used to assemble the new canted undulator front ends for the Advanced Photon Source upgrade. The front end consists of a series of components that connect the storage ring to the user beamline in order to deliver a photon beam that will be used as a three-dimensional X-ray microscope for experimental purposes. The properties of the materials studied include but are not limited to grain structure, grain boundary and interstitial defects and morphology. These properties are not only studied at ambient environments but also under high pressure, temperature, stress and strain. The objective is to further the understanding of different materials and material properties.

Docket Number: 19-004. Applicant: University of Chicago Argonne LLC., Lemont, IL 60439-4873. Instrument: Unipolar

polar supplies. Manufacturer: Danfysik, Denmark. Intended Use: See *Notice* at 84 FR 42889-90. 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 were being manufactured in the United States at the time of order. Reasons: According to the applicant, the instrument is part of a complex machine to be used for basic research that provides a very stable and filtered direct current (DC) to power electromagnet to bend, focus and correct electrons particle (e-) in a multi bend achromat (MBA) storage ring (SR). The nominal current varies from 100 A to 300A and the required stability and ripple is better than 10 parts per million (<10ppm). The equipment should comply with APS safety standards and mechanical dimensions to be installed in existing racks. According to the applicant, APS-U is approaching a new era in science and engineering, one that promises a revolutionary understanding of complex materials and chemical processes across the entire hierarchy of lengthscales and timescales. The improvements in photon beam properties, combined with rapid, ongoing advances in x-ray optics, insertion devices, detectors, computing and theory will make it possible for researchers at x-ray light sources to explore a new landscape of scientific problems that previously were inaccessible.

Docket Number: 19-006. Applicant: University of Chicago Argonne LLC, Lemont, IL 60439-4873. Instrument: Q4 and Q5 magnets. Manufacturer: Danfysik, Denmark. Intended Use: See *Notice* at 84 FR 42889-90. 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 were being manufactured in the United States at the time of order. Reasons: The instrument(s) are the components of a 4^{th} generation synchrotron accelerator, *i.e.*, the Advanced Photon Source Upgrade (APSU) accelerator. According to the applicant, APSU is a non-profit research facility which provides ultra-bright, high-energy x-ray beams to more than 5000 (and growing) scientists from across the United States. These scientists come from universities, medical schools, and other research institutions. Their research covers nearly every scientific discipline, from materials science to biology, chemistry, environmental, geological and planetary science and fundamental physics. APSU provides x-ray beams of a broad parameters that allow scientists to collect data in unprecedented detail and short time frames. According to the applicant, the research results achieved through APSU will make real and positive impact on our technologies, health, economy and fundamental understanding of the materials that make up the world.

Docket Number: 19-007. Applicant: University of Chicago Argonne LLC, Lemont, IL 60439-4873. Instrument: Fixed Masks, Photon Shutters, Grid Masks. Manufacturer: Strumenti Scientific CINEL S.R.I., Italy. Intended Use: See *Notice* at 84 FR 42889-90. 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 were being manufactured in the United States at the time of order. Reasons: The instrument and components will be used to assemble the new high heat load front ends for the Advanced Photon Source Upgrade. The front end consists of a series of components that connect the storage ring to the user beamline to deliver a photon beam that will be used as a three-dimensional X-ray microscope for experimental purposes. The materials/phenomena studied vary from material properties analysis, protein mapping for pharmaceutical companies, X-ray imaging and chemical composition, but are not limited to grain structure, grain boundary and interstitial defects and morphology under high pressure, temperature, stress and strain.

Docket Number: 19-009. Applicant: Fermi Research Alliance (FRA) Batavia, IL 60510. Instrument: Linac Coherent Light Source II (LCLS-11) cryomodules vacuum vessels. Manufacturer:

Wuxi Creative Technologies Company, Ltd., WXCX, China. Intended Use: See *Notice* at 84 FR 42890. 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 were being manufactured in the United States at the time of order. Reasons: The instrument will be used to study scientific research including the studies of elementary particles. Each vessel is assembled with other components to form a CW cryomodule. The Vessel is a cylindrical vacuum shell that the cold mass upper assembly ("Assembly") is inserted into. The Vessel provides the insulating vacuum and other necessary conditions to cool down and operate the cryomodules in the LCLS-II upgrade.

Dated: October 9, 2019.

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

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