

Memorandum of Understanding
Between
The Joint Institute for Nuclear Research
and
Fermi National Accelerator Laboratory

Concerning
Cooperation in Particle Physics and Related Fields

The Joint Institute for Nuclear Research (JINR) in Dubna, Russia and Fermi National Accelerator Laboratory (Fermilab), in Batavia, IL, hereinafter collectively the Participants,

Recognizing their mutual interest in promoting cooperation in scientific and technological exchanges concerning cooperation in particle physics and related fields,

State their understanding as follows:

1. The Participants intend to facilitate scientific cooperation in the following areas:

- A. The Collider Detector at Fermilab (CDF) experiment at Fermilab
- B. The DZero (D0) experiment at Fermilab
- C. The Muon to electron conversion (Mu2e) experiment at Fermilab
- D. The Muon g-2 experiment at Fermilab
- E. The Observation of Rare Kaon Amplitudes (ORKA) kaon decay experiment at Fermilab
- F. Project X at Fermilab
- G. The Project of the Complex of Nuclotron-Based Ion Collider Facility (NICA) at JINR
- H. The Compact Muon Solenoid Detector (CMS) at the Large Hadron Collider (LHC) at the European Organization for Nuclear Research (CERN)
- I. The International Linear Collider (ILC) and superconducting Radio Frequency (RF) studies
- J. Muon Collider and Neutrino Factory
- K. General and advanced accelerator studies
- L. Neutrino physics, including the Neutrinos at the Main Injector (NuMI) Off-axis Electron Neutrino Appearance (NOvA) experiment and the Long Baseline Neutrino Experiment (LBNE).

2. Forms of Cooperation

- A. Exchange of scientists or engineers for short-term and long-term periods
- B. Joint collaboration in areas of mutual interest
- C. Such other forms of cooperation as may be mutually decided upon.

3. General Considerations

- A. To coordinate the activities under this exchange, each Participant should designate a contact person to whom correspondence is to be addressed. Cooperative activities under this Memorandum of Understanding (MOU) may commence upon signature by the Participants and continue for a five (5) year period unless earlier discontinued. A Participant that wishes to discontinue its participation in the activities contemplated by this MOU should endeavor to provide the other Participant 30 days written prior notice. This MOU may be modified by the mutual consent of both Participants in writing.
- B. This MOU does not create any legally binding obligations between the Participants.
- C. Each Participant is responsible for the costs it incurs in participating in cooperative activities under this MOU.
- D. The cooperation contemplated by this MOU may be undertaken by a "Purchase Order", a "Cooperative Research and Development Agreement", a "Work for Others Agreement", or other written agreement as appropriate.

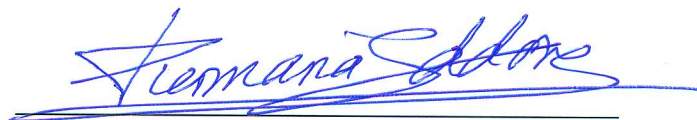
Signed in Duplicate:

FOR: The Joint Institute for Nuclear Research

FOR: Fermi National Accelerator Laboratory



Victor Matveev
Director, JINR



Piermaria Oddone
Director, Fermilab

April 22, 2013

April 22, 2013