



THE UNIVERSITY

OF TEXAS

AT ARLINGTON

Department of Physics

Box 19059

502 Yates

Arlington, Texas

76019-0059

T 817.272.2266

F 817.272.2824

www.uta.edu

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To: Scientific Council Д 720.001.04 (JINR, Dubna)

CC: Professor Victor Ivanov (Scientific Council Д 720.001.04 Chair), Professor Vladimir Korenkov (LIT JINR Director)

Re: Letter of support for Dr. Alexei Klimentov

I have known Dr. Alexei Klimentov as a colleague since 2005. We have collaborated for more than a decade on the international ATLAS collaboration at the LHC, and on many Big Data research projects in the U.S.A., Russia and Europe.

Alexei Klimentov is internationally recognized as a leader in HEP computing. Alexei led ATLAS Distributed Computing for many years. With ATLAS computing resources scattered worldwide at hundreds of WLCG sites, managing the efficient utilization of these resources was a huge task – which Alexei managed superbly. He supervised dozens of scientists at CERN and BNL in the smooth operation of the huge ATLAS computing infrastructure. His contributions to ATLAS distributed computing directly led to the success of the first LHC data run, and the Nobel prize winning discovery of the Higgs Boson in 2013.

Under Alexei's leadership, major advances in distributed computing were accomplished in many areas: implementation of the thermodynamic model for ATLAS data handling; the automated protocols to evaluate the performance of Grid centers through a set of functional tests; the design, coding and implementation of the current ATLAS Production System which is now being considered by other experiments and projects; developing the PanDA system to process data at exascale. Thousands of physicists are using the PanDA system for data processing and analysis in many experiments worldwide. Currently, over two hundred and fifty thousand computing slots deployed at hundreds of sites world-wide are running PanDA. The system is scalable to serve the needs of a large collaboration, small physics groups and individual physicists. The success of PanDA in the past five years is directly attributable to the leadership of Alexei.

In 2014 Alexei Klimentov proposed, set up, and is still leading the megaPanDA project and “Big Data Technologies” Laboratory in the Russian National Research Center “Kurchatov Institute”. This project has made vital contributions in many areas, in particular in HPC / HTC integration, which has been successfully demonstrated for the first time at several supercomputers in Russia, USA and Europe. Many HPC centers are now fully integrated with the PanDA Production System, allowing access to heterogeneous distributed cyberinfrastructure for physicists. This has allowed HENP to leverage non-

traditional resources such as commercial clouds and supercomputers. In addition, the project had significant impact on geographically distributed storage federations, machine learning algorithms to detect anomalies in distributed production workflows, and global monitoring of resources and Production System.

Alexei has made many pioneering contributions in the field of computing for particle physics. His work allows scientists to seamlessly access the power of computing clusters distributed worldwide. Alexei is highly visible in presenting the results of his work at international conferences. He is routinely invited to organize sessions at international meetings. He is recognized internationally as a leader in the field of scientific computing.

In summary, Dr. Alexei Klimentov is an internationally renowned scientist, with a long history of accomplishments in computing for HEP. He has demonstrated the ability to enable scientific discoveries in many different experiments, through his work in high performance computing. I am proud to write this letter of support for him. Please do not hesitate to contact me if you need further information.

Sincerely,

A handwritten signature in black ink that reads "Kaushik De". The signature is written in a cursive style and is underlined with a single horizontal line.

Kaushik De
Professor of Physics
Director, Center of Excellence in HEP
(817)272-2813
kaushik@uta.edu