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**Scientific Council Д 720.001.04 (JINR, Dubna)**  
**Prof. dr. Victor V. Ivanov, Scientific Council Chair**

*Subject:* Letter of Reference for dr. Alexei Klimentov

Dear prof. dr. Ivanov,

I am pleased to submit this letter of reference for dr. Klimentov, whom I have had the pleasure to work with for the last ten years. In my last position of ATLAS Computing Coordinator as well as in my other past capacities, I have had the excellent opportunity in following the career development and working with dr. Klimentov from his first involvements in ATLAS Software and Computing domain.

I think I can say with confidence that dr. Klimentov deserves the credit for making the ATLAS Distributed Computing the internationally acclaimed success it has become. He was always the most respected member and splendid organizer of the ATLAS Distributed Computing group and also formally led its effort for a number of years. Dr. Klimentov has excelled in all critical projects he led or participated in, demonstrating his organizational, planning and leadership skills. In my view he is one of the key people responsible for the success of the ATLAS Distributed Computing and the World-wide LHC Computing Grid (WLCG), which enabled the ATLAS Collaboration a timely production of Physics results and led to the discovery of the Higgs boson in 2012.

From the very beginning of his participation in the ATLAS experiment, he was leading the effort in defining the operational and conceptual elements of the ATLAS Computing Model of processing, storing and managing the data in the most efficient way. His ideas led to the consolidation of the world-wide distributed computing resources in the PanDA distributed computing system, and introduced a very advanced job brokerage system, efficiently balancing diverse ATLAS computing activities from data reconstruction to statistical user analysis. One of the highlights, invented by dr. Klimentov, is also the Thermodynamic Model of data placement, where the data is given a virtual 'temperature' according to its popularity (access patterns) and consequently the data replication, placement and deletion is based on this temperature, which very ingeniously optimizes the use of the available computing resources. Lately, he has also become highly involved and is now leading the initiative

in developing the existing advanced ATLAS Distributed Computing Model and tools to include the world-wide available heterogeneous resources, from computing Clouds by Google and Amazon to the world-leading supercomputers in the most prestigious HPC centres.

I think it is beyond doubt that no other scientific experiment in the world does as yet match the sophistication of the computing environment, as developed by experts led by dr. Klimentov. Consequently, one of his numerous involvements is also to disseminate the knowledge gained within ATLAS to other scientific experiments around the world, e.g. helping the renowned AMS experiment to set up their computing environment in a similarly efficient way as done in ATLAS and seeking common solutions with other LHC experiments to optimize the workload and minimize the costs.

In addition to his scientific innovation, dr. Klimentov also demonstrated exceptional organizational and personal skills; he organized his own team of experts which he manages to keep highly motivated and very productive. With his pleasant and professional attitude, he also always manages to attract a number of students of various levels and includes them into the diverse projects within his team to their mutual satisfaction. Furthermore, through the years he managed to inspire and helped expand many scientific communities all around the world, from Brazil to Armenia, to join the international ATLAS software and computing community.

To sum up, while dr. Klimentov was already an established and well-known scientist when we met, he has today grown into an internationally acclaimed expert and a leading figure in distributed computing and is consequently invited to give talks and participate in the organizing and steering bodies at the most eminent international events related to his field of expertise.

To conclude, Dr. Klimentov is in my view an exceptional scientist and is also one of the precious assets of the ATLAS international collaboration and it is for me both an honour and a privilege to work with him. I have no doubts that his future association with JINR will be of benefit both to JINR and to Dr. Klimentov and I thus warmly welcome his habilitation with JINR, which I strongly encourage.

Yours sincerely,



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