I. General considerations

The Scientific Council takes note of the comprehensive report presented by JINR Director V. Matveev.

The Scientific Council welcomes the continuous support given by the JINR Member States which results in the annually growing budget of the Institute despite the current difficult economic situation. The Scientific Council would like to express its high appreciation of the efforts being taken by the Plenipotentiaries of the Member States which guarantee not only the implementation of the current seven-year plan but also the future development of JINR.

The Scientific Council is impressed by the wealth of high-quality physics results obtained last year by JINR scientists at the excellently operating home facilities as well as at external accelerators, reactors and other collaborations.

The Scientific Council takes note of the decisions of the recent session of the Committee of Plenipotentiaries (CP) of the Governments of the JINR Member States (November 2014).

The Scientific Council is pleased with the CP's decision to grant the European Organization for Nuclear Research the status of Observer at JINR, following a similar decision on the status of Observer of JINR at CERN taken earlier by the CERN Council. The Scientific Council considers this reciprocal arrangement as a strategic step towards intensifying the mutually beneficial partnership between these two international organizations which have a long history of cooperation.

The Scientific Council notes the information on the ongoing interactions of JINR with major European science organizations, like NuPECC, ESFRI, ApPEC and others, which will definitely serve to promote effective international cooperation in the respective fields of research.

The Scientific Council welcomes the election of Professor A. Maggiora (INFN, Turin, Italy) as a new member of the JINR Scientific Council.

II. Recommendations on reported activities

The Scientific Council has devoted particular attention to the accomplishment of the two main JINR strategic objectives, namely the construction of the Factory of Superheavy Elements and of the NICA complex.

The Scientific Council takes note of the report "Progress of construction of a Factory

of Superheavy Elements (SHE)" presented by FLNR Director S. Dmitriev. The construction of the DC-280 cyclotron and of the new experimental instruments is proceeding on schedule. Certain problems arose due to the delay in the civil construction of the SHE experimental hall; however the necessary measures have been taken to resume this work. The Scientific Council recommends that the JINR and FLNR Directorates continue to work towards the successful achievement of this major project and to minimize any time delay. The Scientific Council concurs with the recommendation of the PAC for Nuclear Physics that the additional time due to the delay of the civil construction should be used to intensify the preparation of experiments, including the development of targets for high-beam intensity.

The Scientific Council notes with satisfaction the progress in implementing the NICA project as presented in the report by VBLHEP Director V. Kekelidze, in particular: the selection of a general contractor and the preparation of the construction site, the ongoing preparation of TDRs for the main subsystems of the MPD detector, the active work for the serial production of superconducting magnets for the NICA booster and collider as well as for the FAIR SIS-100 accelerator, of mRPC TOF detectors for BM@N and MPD, of the TPC detector for MPD, of the electromagnetic calorimeter modules, and of the silicon vertex detector for BM@N, MPD and CBM. The Scientific Council understands the delays in signing the contracts for the construction of the collider building and the fabrication of the MPD magnet. Noting the importance of the NICA project for JINR, the Scientific Council encourages the JINR Directorate to continue providing funds for the activities under this project.

The Scientific Council takes note of the report from the Detector Advisory Committee (DAC) for the BM@N project presented by Professor I. Tserruya, a member of this DAC. The Scientific Council notes with satisfaction the ongoing interactions of the BM@N DAC and the BM@N team in defining the BM@N detector concept and the various detector components, as well as in evaluating the physics reach and performance of the detector. The Scientific Council fully supports the DAC's recommendation on a timely implementation of the experiment, thanks the members of the DAC for the detailed evaluation of the project, and recommends continuation of regular reviews.

III. Recommendations in connection with the PACs

The Scientific Council takes note of the recommendations made by the PACs at their January 2015 meetings as reported at this session by I. Tserruya, Chairperson of the PAC for Particle Physics, W. Greiner, Chairperson of the PAC for Nuclear Physics, and by

O. Belov, Scientific Secretary of the PAC for Condensed Matter Physics. The Scientific Council suggests that the JINR Directorate should take into account these recommendations in preparing the JINR Topical Plan of Research and International Cooperation for 2016.

Particle Physics Issues

The Scientific Council appreciates the progress in realization of the MPD project and shares the PAC's concern on the two important milestones that remain on the critical path — the general contract for construction of the collider building and the contracts for the MPD magnet fabrication. It supports the recommendations on consolidation of all necessary efforts to avoid any further delay in approval of these contracts. The timetable of the entire project cannot be defined before these contracts are signed.

The Scientific Council recognizes the important role of the Detector Advisory Committee (DAC) for the optimization of the BM@N experimental set-up and looks forward to the results of the first test run scheduled on February–March 2015 aimed at assessing beam quality, test detector response, trigger and integrated DAQ system of the BM@N.

The Scientific Council notes the PAC's appreciation of the already well-developed consolidation plan of the JINR neutrino programme presented by the DLNP Directorate.

The Scientific Council supports the PAC's recommendations on the continuation of the ongoing projects in particle physics within the suggested time scales, as outlined in the PAC report. This is particularly true for the LHC project and experiments where the contribution to the upgrade should be well balanced with a strong involvement in the analysis.

Nuclear Physics Issues

The Scientific Council recognizes the significant progress made in modernizing the infrastructure in the IREN accelerator building and the successful tests of the new klystron modulators delivered to JINR. The Scientific Council recommends that the FLNP Directorate provide assistance for the completion of the world-class neutron source with neutron intensities up to 10^{13} 1/s to make sure that the scientific programme can be achieved by 2016.

The Scientific Council appreciates the research work and developments carried out under the theme "Non-Accelerator Neutrino Physics and Astrophysics" which concerns studies of the weak interaction by looking for new or rare phenomena. The participation in the international projects of this theme provides a strong base and know-how for the development of home-based neutrino experiments at two basic facilities — the laboratories located at the Kalinin Nuclear Power Plant and at Lake Baikal. The Scientific Council

appreciates the quality of the results obtained in the SuperNEMO, GERDA, and EDELWEISS projects, recognizes the high quality of the preparatory work for the reactor antineutrino investigations within the GEMMA and DANSS projects, as well as the high scientific importance of the BAIKAL project with JINR's leading role in its implementation. The Scientific Council recommends extension of this theme and its projects for another three years.

The Scientific Council concurs with the recommendations on the continuation of the research programme of the FASA-3 project (investigations of very hot nuclei produced by relativistic light-ion projectiles and of thermal multifragmentation dynamics).

The Scientific Council also supports the extension of the theme "Improvement of the JINR Phasotron and Design of Cyclotrons for Fundamental and Applied Research", which is focused on the development and improvement of accelerators for hadron therapy applications.

Condensed Matter Physics Issues

The Scientific Council highly appreciates the quality and interdisciplinary character of the main scientific results in the field of condensed matter research and instrumentation developments at the IBR-2 facility achieved in 2014. In particular, it welcomes the upgrade plans for the HRFD spectrometer. The new instrumentation developments will open new opportunities in the research programme and will be important for attracting more users of IBR-2 instruments. In this regard, the successful implementation of the FLNP User programme at the IBR-2 spectrometers plays an important role. The Scientific Council concurs with the PAC that further development of the User Programme should be continued. It also shares the PAC's opinion that the scientific results achieved should be actively disseminated among research centres in Member States.

The Scientific Council appreciates the new opportunities for high-performance computing open by the HybriLIT heterogeneous computing cluster newly implemented at LIT. It supports the PAC's recommendation on further development of this facility in order to cover the wide range of user interests.

Common Issues

The Scientific Council welcomes the plans of the PACs to participate in the preparation of a new seven-year plan for the development of JINR (2017–2023) and to consider the proposals from the Laboratories expected to be presented at the next meetings in June 2015.

The Scientific Council encourages the JINR Directorate to reconsider the possible gain in efficiency and synergy by organizing all neutrino research activities under the same

umbrella programme.

Reports by young scientists

The Scientific Council appreciates the following reports by young scientists which were selected by the PACs for presentation at this session: “A model of sequential electron transport in the graphene-nucleotide-graphene system. DNA decoding”, “Feasibility study of Φ(1020) production at NICA/MPD”, “Analysis of experimental data from the Dynamic Albedo of Neutron (DAN) instrument for NASA’s Mars Science Laboratory”, and thanks the speakers: V. Katkov (BLTP), L. Yordanova (VBLHEP), and P. Dubasov (FLNP). The Scientific Council welcomes similar reports in the future.

IV. Memberships of the PACs

As proposed by the JINR Directorate, the Scientific Council appoints I. Štekl (IEAP CTU, Prague, Czech Republic) as a new member of the PAC for Nuclear Physics for a term of three years.

V. Scientific reports

The Scientific Council highly appreciates the reports “Astroparticle physics: from ApPIC to ApPEC” and “Scientific heritage of F. Shapiro: from the 20th century to the 21st century”, and thanks Professors M. Spiro and V. Shvetsov for their informative presentations.

VI. Awards and prizes

The Scientific Council congratulates Professors B. Sharkov (Russia) and Gh. Stratan (Romania) on the award of the diplomas “Honorary Doctor of JINR”.

The Scientific Council approves the Jury’s recommendations on the JINR prizes for 2014 (Appendix) in the annual scientific research competition in the fields of theoretical physics, experimental physics, physics instruments and methods, and applied physics.

The Scientific Council congratulates Professors M. Henneaux (ISIPC and ULB, Brussels, Belgium) and V. Rubakov (INR RAS, Moscow, Russia) on the award of the N. Bogoliubov Prize for their outstanding achievements in theoretical and mathematical physics, promoting international cooperation and educating young scientists. The Scientific Council thanks Professors M. Henneaux and V. Rubakov for their excellent presentations.

The Scientific Council congratulates Professor G. Domogatsky (INR RAS, Moscow, Russia) on the award of the B. Pontecorvo Prize for his outstanding contributions to high-energy neutrino astrophysics and neutrino astronomy, in particular his pioneering

development of a high-energy neutrino detection method by an underwater detector and construction of the detector at Lake Baikal. The Scientific Council thanks Professor G. Domogatsky for his excellent presentation.

VII. Appointment of Deputy Directors of JINR Laboratories

The Scientific Council endorsed the appointment of H. Khodzhibagiyan, Yu. Potrebenikov, A. Sorin and A. Vodopyanov as Deputy Directors of the Veksler and Baldin Laboratory of High Energy Physics and the appointment of V. Lisý and G. Timoshenko as Deputy Directors of the Laboratory of Radiation Biology, until the completion of the terms of office of the Directors of these Laboratories.

The Scientific Council agrees with the proposal of the VBLHEP Directorate to postpone the endorsement of appointment of the fifth Deputy Director until the next session of the Scientific Council.

The Scientific Council encourages the JINR Directorate to look for outstanding candidates from all the Member States and to try to promote a gender balance.

VIII. Next session of the Scientific Council

The 118th session of the Scientific Council will be held on 24–25 September 2015.

V. Matveev
Chairman of the Scientific Council

M. Waligórski
Co-chairman of the Scientific Council

N. Russakovich
Secretary of the Scientific Council