

XVII Polish Workshop on Relativistic Heavy-Ion Collisions: Phase diagram and Equation of State of strongly interacting matter



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Quantum sensors for HEP: DRD-5: Detector R&D Collaboration for quantum sensors at CERN

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The second quantum revolution is opening new avenues for development. The three main pillars which sustain the current effort are quantum telecommunication, quantum computing and quantum sensing. The three fields are tightly connected to each other and advances in any of them move the boundaries of the whole field. On an international scale, there is an ongoing effort to bridge the technological readiness level of quantum sensing prototypes to make them available to the community. In this sense, quantum sensing techniques will be developed within the recently approved Detector R&D Collaboration (<https://cds.cern.ch/record/2901426for>) quantum sensors (DRD-5) with more than 100 institutes united under the umbrella of CERN, in Geneva. The Collaboration will implement the European Strategy for Particle Physics R&D plan of the European Committee for Future Accelerators (ECFA) in the domain of quantum technologies which potentially can revolutionize frontier research. At the same time, local initiatives as the Polish Quantum Technology infrastructure progresses in acquiring competences to lead this field in the future. Part of such efforts are related to the development of open software and hardware solutions used in quantum computers and experiments.

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