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## **NA61/SHINE experiment at the CERN SPS**

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### **Abstract**

The aim of this project is to explore the QCD phase diagram within the range of thermodynamical variables (like e.g. temperature and baryon chemical potential) accessible at the SPS. In addition it provides precise hadro-production measurements to characterize the neutrino beam of the T2K experiment at J-PARC and to simulate cosmic-ray showers for the Pierre Auger Observatory, KASCADE-Grande and KASCADE experiments. The main physics goals of the NA61/SHINE ion program are the study of the properties of the onset of de-confinement and the search for signatures of the critical point of strongly interacting matter by performing an energy (beam momentum 13A-158A GeV/c) and system size (p+p, p+Pb, Be+Be, Ar+Ca, Xe+La) scan. The architecture and performance of the detector will be discussed. Moreover, an overview of NA61/SHINE status, results and plans will be presented.