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### **LHC and Future Directions in Heavy Ion Physics**

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The Large Hadron Collider will soon provide heavy ion collisions at the highest energy density produced in a laboratory. These TeV scale Pb+Pb collisions are expected to allow further studies into the understanding of the quark-gluon plasma. Particles will be produced out to a higher  $p_T$  range than in previous Heavy Ion collisions, allowing for studies of the nuclear modification factor ( $R_{AA}$ ) and direct measurements of jets and photons. Soft probes such as charged particle multiplicity, low  $p_T$  hadron spectra, and elliptic flow can give information on the collective, or bulk properties of the system. The detectors at the LHC are well designed to take advantage of this new energy range.