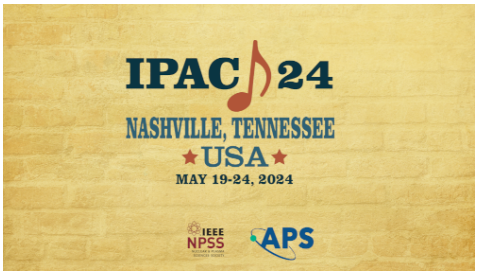


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# The hadron storage ring lattice of the Electron-Ion Collider

*Monday, 20 May 2024 16:00 (2 hours)*

The hadron storage ring (HSR) of the Electron-Ion Collider (EIC) is a modification of the RHIC for acceleration and collision of protons and ions. The 6 straights in RHIC will be modified, and the 6 arcs will be left in place. There are four geometric configurations, switching one arc depending upon the energy of the hadrons or ions, and with two different configurations for one straight, where ultimately there will be a second detector, but initially the detector will be absent. For a given configuration, there are multiple sets of magnet strengths different ion species and different states (collision modes, injection, transition, pre-squeeze, etc.). We will describe important characteristics of the configurations and states we have studied. We explain the functions of the individual straights and describe recent modifications to their designs. We discuss the choice for the integer part of the tunes and the process by which the tune is set. We will also indicate how limitations on existing power supplies in RHIC constrain the design.

## Footnotes

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