

# Cryogenic refrigeration with neon-helium mixtures for the FCC-hh

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The Nelium concept is a novel approach for highly efficient refrigeration in the temperature range from 25 to 65K, making it a promising candidate for the cooling of the FCC-hh beam screens. The concept uses a cycle with turbo compressors, which have higher efficiencies compared to classical screw compressors. To achieve acceptable capital cost, a mixture of neon and helium is used which reduces the number of compression stages. This presentation shows the general concept, the preliminary design of the components and the influence of the neon content.

**Primary author:** KLOEPPEL, Steffen (TU Dresden)

**Co-authors:** HABERSTROH, Christoph; HOLDENER, Fridolin (shirokuma GmbH); QUACK, Hans (TU Dresden)

**Presenter:** KLOEPPEL, Steffen (TU Dresden)

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