

CUSTOMER REFERENCE

SENIS
magnetic & current measurement

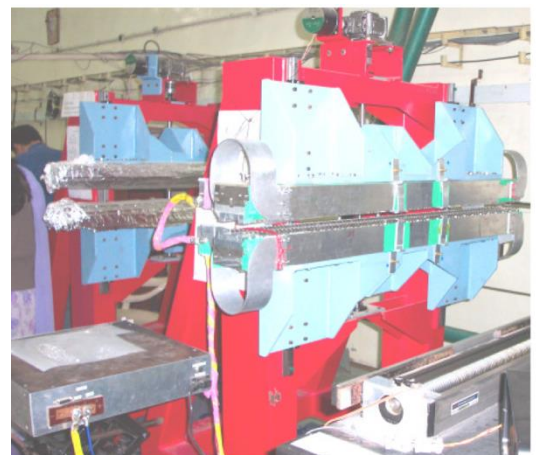
SENIS AG, Switzerland develops, manufactures and supplies advanced sensors and instruments for magnetic field and electric current measurement as well as the corresponding development and engineering services.

Our solutions and services help our clients in the automotive, consumer electronics, test and measurement industries, as well as to research institutes to create powerful, robust and effective products.

SENIS® H3A Transducer used at RRCAT is a SENIS 3-axis ultra-low-noise and high-resolution magnetic flux density-to-analog voltage transducer with a hybrid 3-axis Hall probe of type S.

The hybrid Hall probe integrates three high resolution Hall sensors, and a temperature sensor. The probe provides a good angular accuracy of the three measurement axes. The Hall probe is connected with an electronic box providing biasing for the Hall probe and the application of the improved **spinning-current technique**, which very effectively cancels offset, low frequency noise and the planar Hall effect. The additional conditioning of the Hall probe output signals in the electronic box includes Hall signal amplification, high linearization, compensation of the temperature variations, and limitation of the f-bandwidth.

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The Compact Ultrafast Terahertz **Free Electron Laser** (CUTE-FEL) undulator has been built at **RRCAT** in India (www.rrcat.gov.in). The undulator gap can be varied from 20-100 mm. The magnets are made of NdFeB, each 12.5 x 12.5 x 50 mm³ in size. Individual magnets were characterized, and their arrangement in the undulator determined using a global optimization algorithm. Field measurement of the assembled undulator segments was done using a **SENIS three-axis Hall probe**, with a spatial resolution of 0.1 mm.

Paper: <http://accelconf.web.cern.ch/accelconf/f06/papers/tucau04.pdf>