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Sirius - Details of the new 3.2 T Permanent Magnet Superbend

Tuesday 29 August 2017 13:15 (1h 45m)

An all permanent High Field Superbend Dipole is proposed for the new Sirius optics can now provide hard X-rays in a critical energy of 19 keV. In the new design, the superbend has a much stronger magnetic field with a 3.2 T peak and it is composed of two low field parts designed with a transverse gradient on each side of the high field pole. The full magnet is joined into a single permanent magnet named BC and a floating pole links all three parts. The low field poles, the floating poles and the return flux in the back can be adjusted to correct the integrated dipole and quadrupole components. The magnetic and mechanical design, assembly, magnetic measurements and production strategy will be presented.

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