Sirius: The New Brazilian Synchrotron Light Source

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The Brazilian Synchrotron Light Laboratory (LNLS) is building Sirius, a 4th generation 3 GeV storage ring based on a five-bend-achromat (5BA) magnetic lattice that will be able to reach 250 pm.rad emittance (bare machine). The storage ring, of 518.4 m, has 20 5BA arcs and two types of straight sections for insertion devices: five high beta of 7.0 m and 15 low beta of 6.0 m. These latter ones (with beta(x,y) $\sim$1.5 m) have been optimized for maximum photon brilliance and to allow the use of delta undulators. The project, funded by the Brazilian Ministry of Science and Technology, includes 13 beamlines, 10 based on insertion devices and 3 based on high-brilliance 3.2 T permanent magnets superbends at the center of the 5BA arcs. The current schedule expects first beam in 2018, 6 beamlines by 2019 and the other 7 beamlines between 2020 and 2021. In this talk an overview of the main characteristics, potentialities and status of the project will be provided.

Aerial view of the Sirius building (March 2018)

References

[1] Talk presented onbehalf of the LNLS team.