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A new class of fast power converters for the Elettra 2.0 storage ring

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For the Elettra 2.0 upgrade project, a new class of DC power converters have been internally designed and eventually installed in a number of around 1000 pieces to power multipole and corrector magnets in the synchrotron storage ring. In order to fulfill evolving scenarios over the expected lifecycle of the accelerator, the power converters will be supervised by one of the most advanced digital controllers actually available on the market. In particular the controller provides a double ethernet interface, the first one is used mainly for device management, while the second is designed to support daisy chain or one-to-many (broadcast) current setting schemes, at a maximum of 100 kHz setting rate. Results of static and dynamic tests of the first 20 A prototype of the corrector power converter connected to the control system realtime framework will be reported in the following article.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

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