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A Double Dipole Kicker for ALBA II

Monday 24 April 2023 12:30 (30 minutes)

Facing ALBA II upgrade needs, a novel pulsed magnet named Double Dipole Kicker (DDK) has been designed and it is being prototyped, with the aim to generate a multipole field for off-axis injection, whose proof-of-principle will be tested first at the ALBA storage ring. The resulting magnetic field is the superposition of two opposite dipoles, generated by four inner and four outer conductor rods. On-axis injection can as well be provided by switching off the inner rods, which create a pure dipole field. To maximize the kick efficiency and minimize disturbances on the stored beam inner and outer rods will be powered independently with two pulsed power supplies. In addition, a sophisticated coating layer will be applied to the ceramic surface in order to minimize the eddy current's effect while keeping the impedance optimized. Details of the DDK design and the status of the prototype will be presented.

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