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A force-neutral adjustable phase undulator for a compact X-ray FEL

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The magnetic and mechanical designs of a force-neutral adjustable phase undulator (FNAPU) are pre-sented. The FNAPU combines two magnetic assemblies with equal periods, one with an undulator magnetic structure and one with a force compensation magnet structure. The latter is used to neutralize the magnetic force affecting the undulator magnetic structure and vice versa in all undulator phases. Assembling in proximity a group of different FNAPUs is discussed.

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Footnotes

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