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Status of magnets for WALS ring

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Wuhan Advanced Light Source (WALS) is a proposed 4th generation light source, which accelerators include a 1.5 GeV Linac, 1.5 GeV storage ring and one beam transport line. The ring lattice consists of 8 identical units of 7BA. In each unit, there are 7 longitudinal gradient dipoles with transversal gradients, 10 quadrupoles, 6 sextupoles, 4 anti-bending gradient dipoles. Moreover, a combined dipole which field arrives at 3.67T is located at the middle of unit, which is used for obtaining hard-X ray. In this paper, the status of WALS ring magnets will be presented and the key technical issues for the magnet performance, such as the method of permanent magnets, pole faces optimizations with NSGA-II methods, structures and assembly will be thoroughly discussed.

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Primary author: CHEN, Yuan (Wuhan University)

Co-authors: XIANG, Pai (Wuhan University); ZHANG, Jingmin (Wuhan University); WEI, Geng (Wuhan University); LI, Jian (Wuhan University); Dr NIE, Yuancun (Wuhan University); ZHOU, Weiwei (Wuhan University); HAO, Xuerui (Wuhan University); Dr ZOU, Ye (Wuhan University); LI, HaoHu (Wuhan University); ZHANG, Yu Xin (Wuhan University); WANG, Jike (Wuhan University); HE, Jianhua (Wuhan University)

Presenter: CHEN, Yuan (Wuhan University)

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