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Thermal load and assembly for QWR, HWR, SSR1 and SSR2

The heavy ion accelerator that will be built in Daejeon, Korea utilizes superconducting cavities operating in 2 K, 4.5K. The cryomodules are QWR (quarter wave resonator), HWR (half wave resonator), SSR1 (sing spoke resonator 1) and SSR2 (sing spoke resonator 2). The main role of the cryomodule is supplying thermal insulation for cryogenic operation of the cavities alignment. Thermal and structural consideration such as thermal load by heat leak and heat generation, cryogenic fluid management, thermal contraction. This paper describes detailed design considerations and current results have being done including thermal load estimation.

Author: Dr KIM, WooKang (IBS)

Co-authors: Dr PARK, Gunn-Tae (IBS); Dr KIM, Heetae (IBS); Dr CHA, Hyuk Jin (IBS); Dr KIM, Hyungjin (IBS); LEE, MinKi (Institute for Basic Science); Mr JO, YongWoo (IBS); Dr KIM, Youngkwon (IBS)

Presenter: Dr KIM, WooKang (IBS)

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