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## **Induced radioactivity of metal samples in the radiation field by 9.6 GeV electrons at PAL-XFEL**

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The precise evaluation of the induced radioactivity is very important for the design and the waste management of the high-energy electron accelerator. However, a few experimental data and benchmarking studies are available for high-energy electrons with energies of 2.5 GeV[1,2] and 28.5 GeV[3]. This study is an extension of previous studies. Samples of copper, stainless steel, low carbon steel and aluminum were irradiated in the radiation field by 9.6 GeV electrons hit thick copper target at PAL-XFEL HX main beam dump bunker. The induced specific activity was measured by the gamma spectroscopy, and the irradiation experiment was simulated by the Monte Carlo code, FLUKA[4]. The measured activity and the comparison results will be discussed.

### References

- [1] A. Fasso et al., Journal of Nuclear Science and Technology 37:sup1 (2000) 827-834
- [2] M. Brugger et al., Progress in Nuclear Science and Technology 4 (2014) 363-366
- [3] S.H. Rokni et al., Nuclear Instruments and Methods A 484 (2002) 680-689
- [4] A. Fasso et al., FLUKA: A Multi-Particle Transport Code, CERN-2005-10 (2005)

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