HAOYU SHI

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Main Building, IHEP, CAS, Beijing, China
Post：100049

Skills

- Dose Estimation, and Shielding Design with FLUKA
- Programming Language: Python, C#
- Microsoft Office, LaTeX and Markdown

Education

University of Chinese Academy of Sciences & Institute of High Energy Physics, CAS 2013-2018

Ph.D, Major in Nuclear Science and Technology, Working on Radiation Protection

Fudan University, 2009-2013

Bachelor's Degree, Major in Nuclear Science and Technology

Research

Study on Key Issues of Radiation Protection on CEPC, 2014.9 - now, IHEP, CAS

Working on issues through Pre-CDR and CDR of CEPC：

- Estimated the effects of SR on CEPC Main Ring
- Designed the Shield of SR on CEPC Main Ring
- Designed the Linac Dump of CEPC
- Pre-design of Main Ring Dump of CEPC
- Optimize the shielding design progress by introducing some algorithms like GA.

Innovation & Key Technology：

- Simulated the SR using Photon Source in FLUKA
- Build the Shielding of the SR as a part of magnet rather than vacuum chamber to cut budget and make installation more easier
- Found a way to optimize the shielding design with GA and FLUKA

Optimize the design of Dump of C-ADS — 2015-2016, IHEP, CAS

- Designed and optimized the dump of C-ADS located in Hall 2 of IHEP

- Estimated the dose level of some designs of C-ADS dump

Key Technology：

- Model the complex structure of real accelerator in FLUKA

Tumor magnetic induction therapy，Research on the amplification effect of nano-gold materials — 2012-2013, Fudan University

- Analysis and compared the effects of some different nano materials in radiation therapy.

Publication

1. Shi Haoyu, et.al, Preliminary Study of Radiation Damage caused by Synchrotron Radiation in CEPC Main Ring . Radiation Detection Technology and Methods, 2018(2)
2. Shi Haoyu, et.al, Preliminary Design of CEPC Linac Dump, Nuclear Technology Accepted (Chinese)
3. Xu Chao, Ma Zhongjian, Shi Haoyu, et.al, The realization and verification of integrated modeling of the losing source items by using FLUKA for ERL-FELNuclear Technology, Vol.39(7) (Chinese)
4. Wang Xufei, Shi Haoyu, et.al，Evaluation of Macroscopic Dose Effects of Radiosensitization of High Z Nanoparticles and Its Limitations, Evaluation of Macroscopic Dose Effects of Radiosensitization of High Z Nanoparticles and Its Limitations, Chinese Journal of Medical Physics, 2013 , 30 (6) :4565-4573 (Chinese)

Conference Presentation

1. Estimate and Shielding Design of SR in CEPC，The 1st workshop on applications of high energy CEPC SR Source, Beijing，2017

2. The Design of CEPC Linac Dump，The 4th National Large-Scale Particle Accelerator Radiation Protection Seminar，Dongguan，2016
3. Preliminary Design of CEPC Linac Dump based on Box Model，The 12th National Monte Carlo Method Conference，Qufu，2015

Awards

- Director's Award, IHEP, CAS, 2017
- People's Scholarship, Fudan University, 2010,