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(*Kyung Hee University, **Korea Institute of Science and Technology, ***Korea Institute for Advanced Study)
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Sung Beak Kim*, Hyunkyung Choi**, Chul Sung Kim**
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(*University of Seoul, **Chung-Ang University, ***Ulsan National Institute of Science and Technology, ****Pohang Accelerator Laboratory, *****Korea Institute of Science and Technology)
- TUE-SM19-368 **ESR and FMR Studies of the van der Waals Ferromagnet CrSiTe₃**
Kwangyong Choi*, Jaena Park*, Yugo Oshima**
(*Chung-Ang University, **Rikagaku Kenkyusho)
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Yoonui Kim*, Jaesuk Kwon**, Hee-Kyeong Hwang**, Indra Purnama**, Chun-Yeol You**
(*Korea Advanced Institute of Science and Technology, **Daegu Gyeongbuk Institute of Science and Technology)
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- Bumsub Song, Young Hee Lee, Dinh Loc Duong, Young-Min Kim, Woosoon Choi, Jinbao Jiang, Seok Joon Yun, Young Jae Song
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Sooseok Lee*, Hee-Sung Han*, Myeonghwan Kang*, Hye-Jin Ok*, Mi-Young Im**, Ki-Suk Lee*
(*Ulsan National Institute of Science and Technology, **Lawrence Berkeley National Laboratory)
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Thi Nga Do*, Hayoung Ko**, Soo Min Kim**, Tae Hee Kim*
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Huimin Jeong*, Changsoo Kim**, Dong-Ok Kim**, Jihee Jun***, Younghak Kim****, Wondong Kim**
(*Chonbuk National University, **Korea Research Institute of Standards and Science, ***Sookmyung Women's University, ****Pohang Accelerator Laboratory)
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Changjin Yun*, Mingu Kim*, Jiho Kim*, Kungwon Rhie*, Byungchan Lee**
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Young-Gwan Choi, Gyung-Min Choi
(Sungkyunkwan University)

Mössbauer studies of $\text{Zn}_{0.05}\text{Fe}_{2.95}\text{O}_4$ nanoparticles

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Magnetic $\text{Zn}_{0.05}\text{Fe}_{2.95}\text{O}_4$ nanoparticles was synthesized by the high-temperature thermal decomposition (HTTD) method. The structural and magnetic properties of samples were characterized by using X-ray diffractometer (XRD), vibrating sample magnetometer (VSM), and Mössbauer spectroscopy. Also, the $\text{Zn}_{0.05}\text{Fe}_{2.95}\text{O}_4$ nanoparticles was treated with argon plasma and compared with untreated $\text{Zn}_{0.05}\text{Fe}_{2.95}\text{O}_4$ nanoparticles. From the result of XRD patterns, the crystal structure confirmed that the cubic spinel structure with the space group Fd-3m . The saturation magnetization and coercivity values of the plasma-treated samples at 295 K were increased from 71.5 emu/g and 4.0 Oe to 75.4 emu/g and 4.1 Oe than before plasma treatment. Mössbauer spectra were analyzed the six absorption lines of tetrahedral A-site, octahedral B_1 , B_2 -sites and doublet absorption line of B_3 -site at 295 K. We have confirmed an increase in the value of the magnetic hyperfine field at all temperatures from 4.2 to 295 K after the plasma treatment.