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Key Words Superconductor, Thin film, Transport property, Magnetism

Research Area Growth of superconducting thin films by a PLD (pulsed laser deposition) and a HPCVD (hybrid physical-chemical vapor deposition) techniques and study of physical properties for superconductors such as cuprates superconductors, Fe-based superconductors, and MgB₂ superconductors. By using PPMS (physical property measurement system) and MPMS (magnetic property measurement system), we investigate vortex dynamics in the mixed states in the wide temperature ranges of 2-300 K and the magnetic field ranges up to 9 Tesla.

Education

- 1994 PhD Physics department, Sungkyunkwan University
- 1990 MSc Physics department, Sungkyunkwan University
- 1987 BSc Physics department, Sungkyunkwan University

Experience

- 2005-present Professor, Sungkyunkwan University
- 2003-2005 Assistant professor, Pukyong University
- 1995-2003 Research professor, POSTECH and University of Houston
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Position

- 2016-present Vice-president, Korean superconductivity society
- 2013-2015 Editor in chief, Progress in superconductivity
- 2012-2014 Review board member, National research foundation of Korea

Selected Publication

- W. N. Kang, Hyeong-Jin Kim, Eun-Mi Choi, C. U. Jung, Sung-Ik Lee, "MgB₂ Superconducting Thin Films with a Transition Temperature of 39 Kelvin", *Science***292**, 1521-1523 (2001); (10.1126/science.1060822).
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- J. Demsar, R. D. Averitt, A. J. Taylor, V. V. Kabanov, W. N. Kang, H. J. Kim, E. M. Choi, and S. I. Lee, "Pair-Breaking and Superconducting State Recovery Dynamics in MgB₂", *Phys. Rev. Lett.* **91**, 267002 (2003).
- W. N. Kang, C. U. Jung, Kijoon H. P. Kim, Min-Seok Park, S. Y. Lee, Hyeong-Jin Kim, Eun-Mi Choi, Kyung Hee Kim, Mun-Seog Kim, Sung-Ik Lee, "Hole carrier in MgB₂ characterized by Hall Measurements" *Appl. Phys. Lett.* **79**, 982-984 (2001).
- W. N. Kang, R.L. Meng, and C.W. Chu, "Growth of HgBa₂Ca₂Cu₃O_x thin films using stable Re_{0.1}Ba₂Ca₂Cu₃O_x precursor by pulsed laser deposition", *Appl. Phys. Lett.* **73**, 381-383 (1998).
- Nam Hoon Lee, Son-Gil Jung, Dong Ho Kim, and Won Nam Kang, "Potassium-doped BaFeAs₂ superconducting thin film with a transition temperature of 40 K", *Appl. Phys. Lett.* **96**, 202505 (2010).
- Eun-Mi Choi, Soon-Gil Jung, Nam Hoon Lee, Young-Seung Kwon, Won Nam Kang, Dong Ho Kim, Myung-Hwa Jung, Sung-Ik Lee, Liling Sun, "In situ fabrication of cobalt-doped SrFeAs₂ thin films by using pulsed laser deposition with excimer laser", *Appl. Phys. Lett.* **95**, 062507 (2009).

Others