CURRENT STATUS OF SPINTRONICS RESEARCH OF KRISS

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Recently, Samsung, one of world-wide leading company in semiconductor memory device, has announced the mass production of magnetic random access memory(MRAM). Many people expect, in mid-20's, the limit of current semiconductor memory device will come. The future technologies replacing this memory have drawn a lot of attention and now MRAM becomes one of the strongest candidates.

The core technology of this MRAM is the magnetization switching, where several new techniques are still under development. I will introduce several topics such as magnetic skyrmion, domain wall motion etc. for replacing the current technique such as spin transfer torque.

As a national metrology institute in Korea, we are developing many characterization techniques for the spintronics industry. We will introduce several new techniques especially the microscope and magnetization dynamics tools.

We strongly hope the collaboration between Korea and Belarus in spintrocnics or nano-scale magnetism research area.