Toward future applications of oxides electronics; past, present and future

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△: Presentation by Applicant for JSAP Young Scientists Presentation Award
▲: English Presentation
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How we learned to stop worrying and love the High-k.

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Keywords: semiconductors, high-k dielectrics, oxide electronics

Introduction of high-k dielectrics to memory capacitors and advanced gate insulators had been intensively studied to pursuit the ultimate scaling. We will discuss how we had learned to solve the problems such as compatibility with the current process, the difficulty in the interface control. Such research and development and their results would be most important to implement the oxide electronics to the future devices. In addition, they will bring more insights regarding what the oxide electronics should promote for further functionality or novel values beyond the scaling.