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Rhombohedral Hf_{0.5}Zr_{0.5}O₂ thin films

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Propositions

accompanying the dissertation

Rhombohedral $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$ thin films Ferroelectricity and Devices

1. Although currently there are a wide range of memory device technologies, it is still worthwhile to keep seeking for the "universal" memory.
2. Nanoscale ferroelectricity can be a reality, and it is only since a couple of years ago that we can say that for sure.
3. Nanoscopic effects and strain engineering have significant impact on the structures and properties of functional thin films.
4. The first multiferroic tunnel junctions are fabricated and studied, using ferroelectric HfO_2 -based thin film as tunnel barriers, which shows great advantages compared to the conventional ferroelectrics.
5. The biggest difference between silicon electronics (CMOS) and oxide electronics may be the need, in the latter case, to deal with (oxygen) vacancies.
6. What you perceive as a "failed" experiment is often a crucial clue to understand the whole story.
7. Being a student supervisor has been a good way to cure procrastination.
8. Time commitment, methodology, and critical thinking are the main ingredients for a smoothly developing PhD.
9. *"Life is like riding a bicycle. To keep your balance, you must keep moving"* – *Albert Einstein*. Thus for my PhD life, The Netherlands is an ideal place to "ride bicycle".

Yingfen Wei