The ferroelectricity in fluorite structure oxides including (doped) HfO$_2$ and ZrO$_2$ has attracted increasing interest since the original report in 2011.[1] The fluorite structure ferroelectrics have various advantages over conventional ferroelectric materials including Si-based complementary metal oxide semiconductor-compatibility, matured deposition techniques such as atomic layer deposition, a low dielectric constant and the resulting decreased depolarization field, and stronger resistance to hydrogen annealing.[2-4] However, there are several remaining issues to be utilized as materials for universal memory devices. To date, the fluorite structure ferroelectrics suffer from reliability issues including the wake-up effect, imprint, and insufficient endurance. In this technical talk, therefore, the two main topics will be presented.: the advantages of fluorite-structure ferroelectrics for memory applications are reviewed from a material’s point of view. After that, the critical issues of wake-up effect and insufficient endurance are examined, and potential solutions for the aforementioned issues are subsequently discussed.