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The Ferromagnetic Hafnium Dioxide Thin Films Prepared by Pulsed Laser Deposition YUNG M. HUH, R. VASELAAR, Physics Department, South Dakota State University, Brookings, SD 57007, J. ZHANG, D.J. SELLMYER, Department of Physics and Astronomy, University of Nebraska, Lincoln, NE 68588 — The ferromagnetic hafnium dioxide (HfO2) thin films were prepared using pulsed laser deposition (PLD) system. Ferromagnetic moment was completely suppressed and revived as HfO2 film was annealed in vacuum and air. The variation of ferromagnetic moment was investigated to study the origin of the ferromagnetism in HfO2 system. X-ray diffraction showed that the c-plane is perpendicular to the growth direction. Strong anisotropic moment was observed for applied magnetic fields along the parallel and perpendicular to the c-plane.

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