Fabrication and Characteristics of BaTiO$_3$/Pt/C/Pt/Ti/SiO$_2$ Structures

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BaTiO$_3$(BTO) thin films were deposited on substrates of Pt/C/Pt/Ti/SiO$_2$ by rf magnetron sputtering method, which is under semi-freestanding condition between Pt and C. Cross-sectional images and polarization - electric field (P-E) characteristics were estimated by scanning electron microscope (SEM) and ferroelectric tester, respectively. From the results, we found that the P-E characteristics of BTO/Pt/C/Pt/Ti/SiO$_2$ were better than those of BTO/Pt/Ti/SiO$_2$ (Fig.1). Therefore, the P-E characteristics of the BTO film is thought to be improved by using the substrates of Pt/C/Pt/Ti/SiO$_2$ [1].


![Figure 1](image-url)  
Fig.1 P-E characteristics of BTO/Pt/C/Pt/Ti/SiO$_2$ and BTO/Pt/Ti/SiO$_2$ structures.