Preparation and electrical properties of sol-gel derived (1-*x*)$Pb(Zn_{1/3}Nb_{2/3})O_3$-*x*$Pb(Zr_{0.4}Ti_{0.6})O_3$ (*x*=0.6) thin films

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The films of (1-*x*)$Pb(Zn_{1/3}Nb_{2/3})O_3$-*x*$Pb(Zr_{0.4}Ti_{0.6})O_3$ (*x*=0.6, 40PZN-60PZT) are successfully deposited by sol-gel method. The 40PZN-60PZT thin films were processed from an alkoxide solution precursor. The precursor solution was deposited on $Pt/TiO_2/SiO_2$/ Si substrate by spin coating methode. After 2 step pyrolysis heat treatment at 250□ for 5min and 380□ for 5min. Using combination of homogeneous precursor solution and two-step pyrolysis heat treatment, it is possible to obtain the 40PZN-60PZT thin films of perovskite phase with no pyrochlore phase according to annealing temperature. The diffraction patterns indicate that this film is oriented to (100) preferential tendency. The 40PZN-60PZT films annealed at 700□ showed well saturated hysteresis loop.