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Photoinduced resistivity changes in Bi1-xCaxMnO3 thin films V.N. SMOLYANINOVA, M. RAJESWARI, R. KENNEDY, M. OVERBY, Towson University, MD, S.E. LOFLAND, Rowan University, L.Z. CHEN, R.L. GREENE, University of Maryland, College Park — We report charge-ordered $Bi_{0.4}Ca_{0.6}MnO_3$ thin films with charge-ordering temperature near room temperature, and observation of large photoinduced resistivity changes in these films associated with melting of the charge ordering by visible light. Films grown under small compressive strain exhibit the largest photoinduced resistivity changes. The lifetime of the photoinduced low-resistance state is on the order of half a minute. These photoinduced resistivity changes in thin films of $Bi_{0.4}Ca_{0.6}MnO_3$ make them very promising for photonic device application.

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