

Struktur kristal  $\text{La}_{0.67}\text{Ca}_{0.33}\text{Mn}_{1-x}\text{Ti}_x\text{O}_3$  dengan ( $x=0.04$  ; $x=0.10$ ) dan variasi suhu pemanasan ( $1000^\circ\text{C}$ ,  $1100^\circ\text{C}$ ,  $1200^\circ\text{C}$ ) selama 12 jam =  
Crystal structure  $\text{La}_{0.67}\text{Ca}_{0.33}\text{Mn}_{1-x}\text{Ti}_x\text{O}_3$  with ( $x=0.04$  ; $x=0.10$ ) and the temperature variation of the heating ( $1000^\circ\text{C}$ ,  $1100^\circ\text{C}$ ,  $1200^\circ\text{C}$ ) for 12 hours

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Abstrak

Penelitian ini membahas tentang perovskite manganat, yaitu dengan mensubstitusi Ti ke dalam Mn pada system LCMO, persisnya adalah  $\text{La}_{0.67}\text{Ca}_{0.33}\text{Mn}_{1-x}\text{Ti}_x\text{O}_3$  ( $x=0.04$  dan  $x=0.10$ ). Pada penambahan konsentrasi Ti jelas memperlihatkan kenaikan pada parameter kisi (a,b,c), begitu juga magnetoresistance MR, tetapi akan menurun begitu rasio MR sudah dicapai. Sedangkan suhu curie  $T_c$  akan menurun, hambatan juga mengalami kenaikan. Ketika pada proses sintering dengan variasi suhu  $1000^\circ\text{C}$ ,  $1100^\circ\text{C}$ ,  $1200^\circ$  akan mengalami pengembangan pada ukuran kisi sehingga volume naik, didapati pada suhu akhir pemanasan struktur kristal adalah Ortorombik dengan kisinya face center dan body center.

*This research deals with perovskite manganat, namely by substituting Ti in Mn in LCMO system, is precisely  $\text{La}_{0.67}\text{Ca}_{0.33}\text{Mn}_{1-x}\text{Ti}_x\text{O}_3$  ( $x = 0.04$  and  $x = 0.10$ ). In addition Ti concentration clearly shows the increase in lattice parameters (a, b, c), as well as magnetoresistance MR, but will decrease as the MR ratio was reached. But curie temperature  $T_c$  will decrease, the resistance is also experienced in the process of sintering variation. When with variations of heating temperature  $1000^\circ\text{C}$ ,  $1100^\circ\text{C}$ ,  $1200^\circ$  will experience the development on the size of the lattice so that the volume goes up, found at the end of the heating temperature of the crystal structure is orthorhombic with lattice face center and body center.*