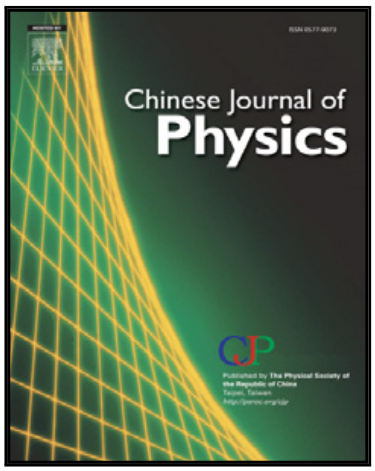

First-principle study of the electronic, magnetic and structural characteristics of the $Mn_2CoAs_{1-x}Al_x$ (x=0,0.25,0.50,0.75) Heusler alloys

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Highlights

- Based on DFT calculations, the $Mn_2CoAs_{1-x}Al_x$ (x= 0.0 to1.0) Heusler alloys were investigated.
- Structural and magnetic properties for Mn_2CoAs and Ti_2CoAl compare well with experiment.
- Half metallic behavior is explained via spin polarization results.
- Magnetic and electronic properties for the quaternary alloys were studied for the first time.