

Ni_2MnGa as representative of magnetic memory shape alloys is gaining popularity in recent years as promising smart material. Most interesting phenomena are observable in single crystals near the martensitic transition temperatures. The strong dependence of its properties on composition is very important for future applications. In order to study its properties, good single crystal with room temperature martensitic transition is desirable. This thesis is focused on tuning growth of crystal in optical floating zone furnace and measuring transition temperatures. To that end multiple specimen with different composition were prepared and their composition and crystalline structure studied by EDS and Laue diffraction. Transitions were studied by magnetisation, calorimetry and dilatometry measurements.