Different Modelling approaches for shape memory alloys. Some of the methods referred for modelling the aspects of the given project are:

**Tanaka Model**

Constitutive Equations based on the Tanaka Model

Where, ( are representative of the initial state the material at the time (t= 0 sec)

+ )

: Phase Transformation Coefficient

Where represents the amount of maximum recoverable strain from a given material.

Kinetics involved in Martensite Volume Fraction:

The above expression involves representation of the martensite volume fraction

If T (reference Temperature) more than the Mf :

If T > As: