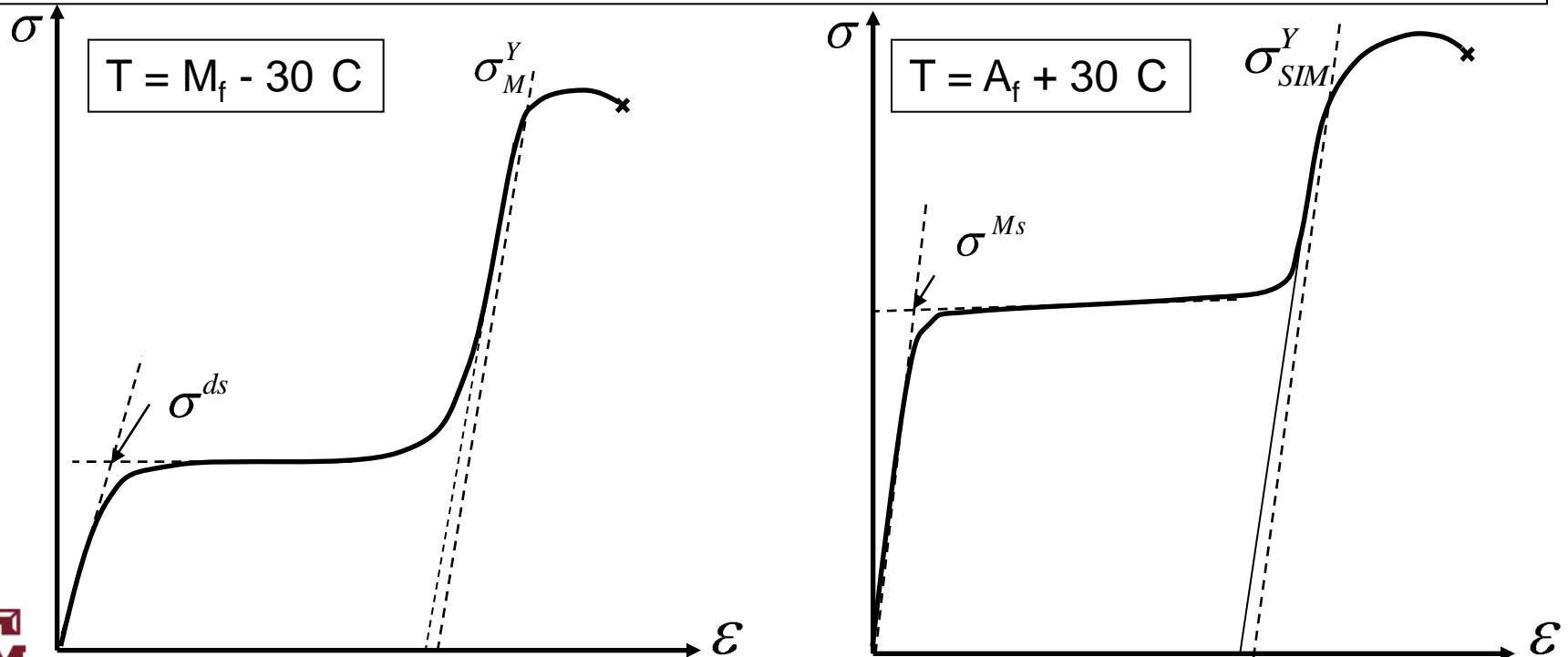


# Monotonic test results on 55NiTi

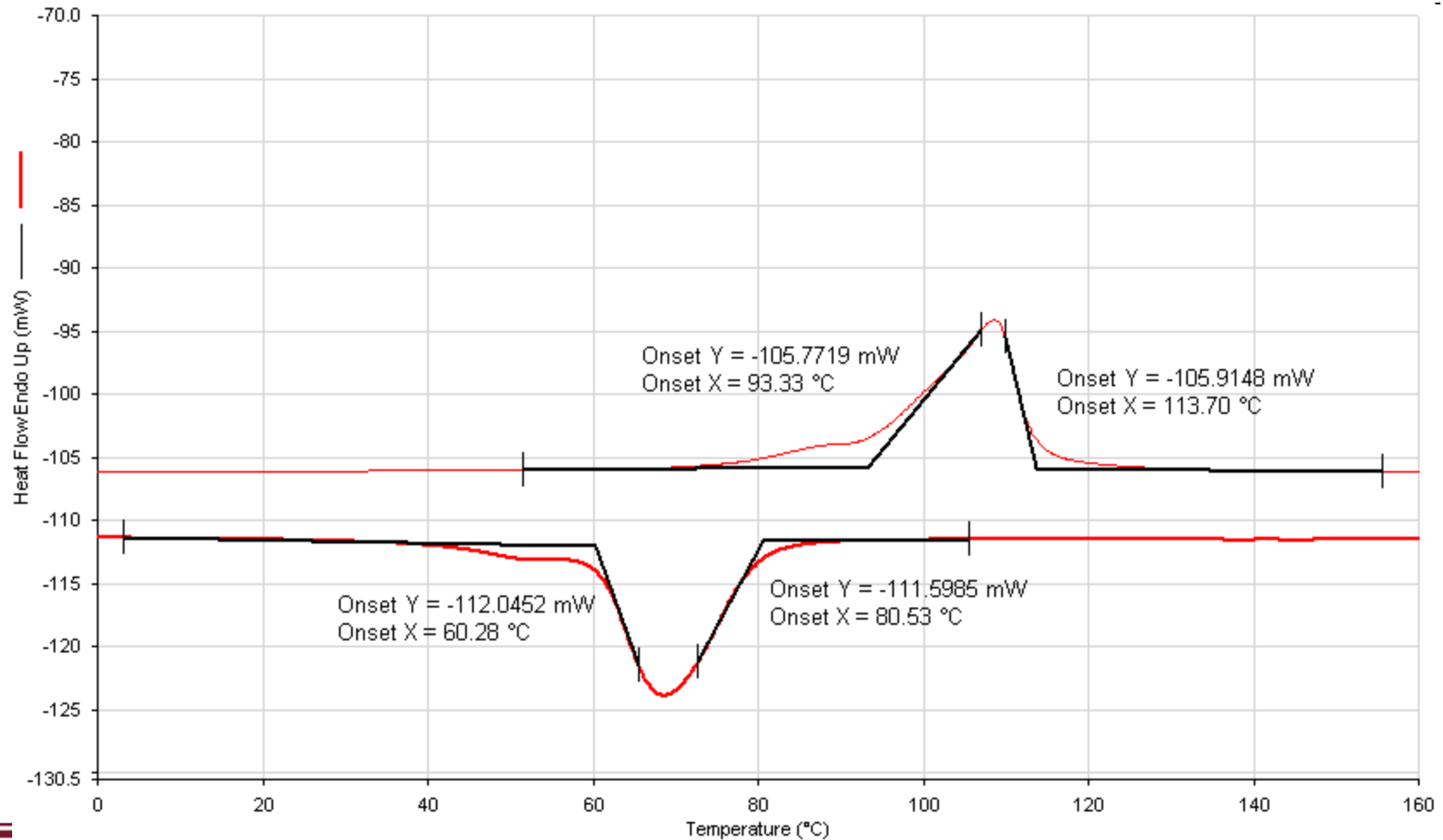
# 2. Isothermal Monotonic Mechanical Properties

## Experiment 2:

- Tensile specimens are monotonically loaded to failure at two temperature levels, one inducing full martensite and one full austenite at zero stress.
- The detwinning start ( $\sigma^{ds}$ ) and martensitic start ( $\sigma^{Ms}$ ) stresses are determined by the intersection of tangents drawn to the plateau zone and initial elastic loading region.
- Macro yield stresses are taken as 0.2% offset value with respect to the 2<sup>nd</sup> elastic loading region.



# Transformation temperatures from the 1st cycle (NiTi 55 at.%)



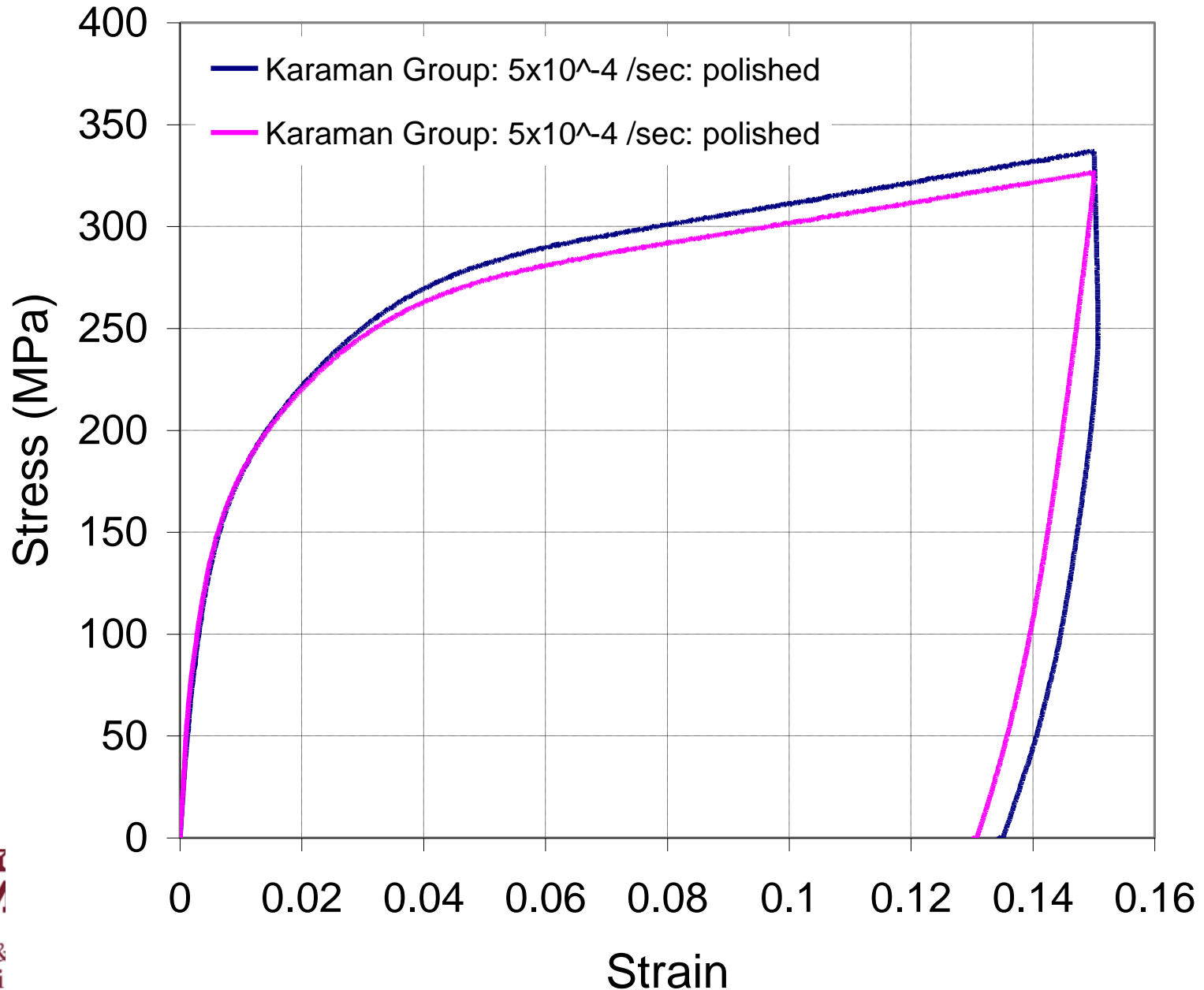
# Monotonic test temperatures

Test Temperature for monotonic testing (NiTi-55 at.%)

$$A_f (115^\circ\text{C}) + 30^\circ\text{C} = 145^\circ\text{C}$$

$$M_f (60^\circ\text{C}) - 30^\circ\text{C} = 30^\circ\text{C}$$

# Monotonic test at 145°C (Af+30)



# Monotonic test at 30°C (Mf-30)

