

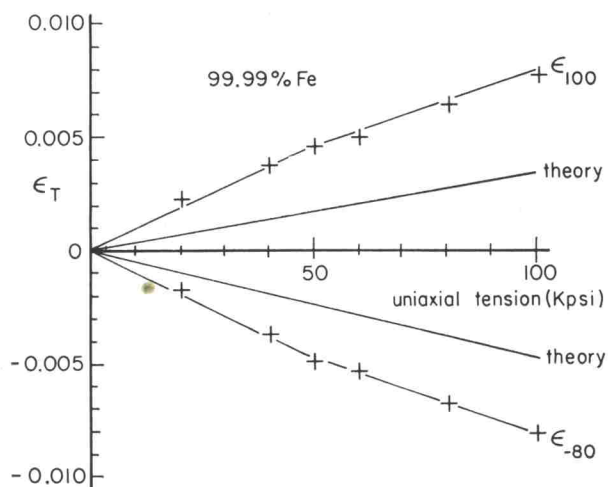


Figure 15. Relative count rate vs stress, at 100 °C and at -80 °C, separately.

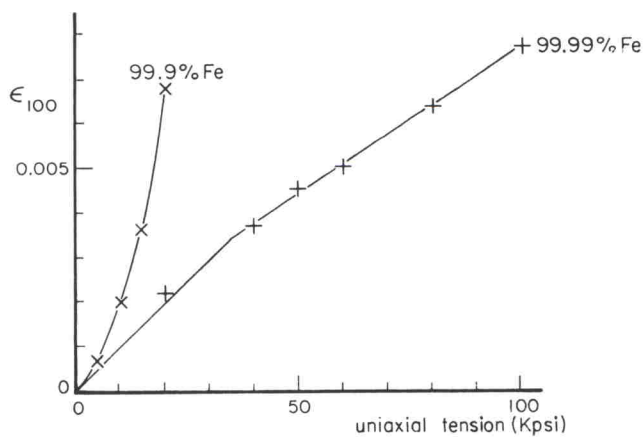


Figure 16. Response of ferrite and of a low carbon steel.

9. Where do we go from here?

In the actual problem of measuring a stress existing in a piece of metal, we have additional problems. We cannot simply follow the count rate vs. applied stress—the stress is already there. Further, the line width and center of the resonance may be changed by alloying conditions. Hopefully, even welds will be measureable, despite the migration of alloying elements. And, the measurement must utilize the one-sided technique, since specimens of interest are usually thicker than foils.

These unknown factors are tentatively treated as requiring additional data points—four will probably suffice. The sensitivity of count rate to geometry is simplified for flat surfaces by setting at the distance which gives a broad maximum in count rate. Curved surfaces will be more troublesome.

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