

one obtains

$$\frac{M}{M_s} = f(e, H_e) + \frac{\left(\frac{M}{M_s} - \frac{\pi}{4}\right)}{\left(1 - \frac{\pi}{4}\right)} \Delta(\bar{P}, H_e). \quad (3.17)$$

The correction is shown in Figure 3.7 for the independent grain assumption. This correction is seen to be negligible in the higher regions of the magnetization curve and obtains significance only in the lower part of the curve where the applied field is substantially lower. It is important to notice that for large strains the effect of porosity on the magnetization curve becomes quite significant. This is believed, by Royce, to explain the shock demagnetization results of Shaner and Royce⁸ in the plastic region of YIG. Shock pressures of 90 to 440 kbars were obtained in that work.