in 0.25 microsecond increments. The vertical coordinate is the actual emf developed across the pickup coil. In Figure 5.6, the experimental magnetization curves are presented along with the theoretical curves for the interacting grain and independent grain assumptions. The two series of shots correspond to approximately one-third and two-thirds of the Hugoniot elastic limit in YIG. This has been reported as 64 kbars[10] (attributed to R. A. Graham). In Figure 5.7, the data are plotted as a function of the normalized field $H_e/e$ against which the predicted magnetization curves for any induced anisotropy field are self similar. The vertical error bars are determined by the experimental extremes as discussed in Section 5.3. The horizontal error bars are $\pm 6\%$ which is the rms error for $H_e$ and e.

TABLE 4.--Experimental results

| ot no. | Projectile velocity (mm/μs) | Projectile material | Mean strain in YIG | Magnetic field (oe) | Induced[a] emf (volts) | Specimen width (cm) | $\delta M/M_s$[b] |
|---|---|---|---|---|---|---|---|
| -016 | 0.598 | Plexiglass ROHM and HASS Type-G | -0.0083 | 359 | 20.5 | 1.060 | 0.332±.066 |
| -030[c] | 0.602 | | | 245 | ---- | 1.063 | 0.602±.100 |
| -039 | 0.600 | | | 258 | 62.4 | 1.067 | 0.515±.033 |
| -053 | 0.601 | | | 588 | 11.2 | 1.075 | 0.089±.034 |
| -057 | 0.596 | | | 494 | 21.6 | 1.085 | 0.173±.037 |
| -059 | 0.598 | | | 680 | 4.6 | 1.081 | 0.039±.015 |
| -002 | 0.597 | | | 421 | 30.3 | 1.023 | 0.260±.055 |
| -013 | 0.598 | | | 787 | 2.5 | 1.081 | 0.018±.010 |
| -015 | 0.551 | Aluminum oxide WESGO-995 | -0.0162 | 660 | 48.5 | 1.068 | 0.400±.030 |
| -016 | 0.555 | | | 935 | 20.5 | 1.032 | 0.173±.038 |

[a]This emf was developed across 10 turn pickup coils with the exception of shot no. 70-016 which ed a 5 turn pickup coil. The values were obtained through Equation (5.8).

[b]Calculated with an $M_s$ of 128 gauss. See Section 4.4.

[c]On this shot, the solenoid was prematurely shorted. These values were obtained by estimating e field due to residual current and knowledge of the circuit inductances and resistances.