



Fig. 9. Density and refractive index of  $\text{SiO}_2$  phases.  $\blacktriangle$  Solid triangle: crystalline phases—Coe, coesite; Q, quartz; K, keatite; C, cristobalite; T, tridymite; M, melanophlogite.  $\bullet$  Solid circle: fused silica glass.  $\circ$  Open circle: diaplectic silica glasses (Ries).  $\square$  Dotted square: diaplectic quartz with planar elements of the decorated type (Ries).  $\square$  Open square: diaplectic quartz with planar elements of the non-decorated type (Ries).

pressures (> 350 kb). Figure 9 shows the densities and mean refractive indices of these  $\text{SiO}_2$ -glasses and of quartz with planar elements from Ries samples. These shock-produced phases are distinctly different, in their physical properties, from both  $\alpha$ -quartz and from fused silica. We propose to call them *diaplectic quartz* (quartz with planar elements) and *diaplectic quartz glass*, respectively (Engelhardt and Stöffler, *this vol.*, p. 159; Engelhardt *et al.*, 1967a).

Further investigations are desirable in order to elucidate the similarities and differences which exist between planar elements found in quartz from impact craters and deformation features which have been artificially produced by static high pressure experiments (Christie *et al.*, 1964; Carter *et al.*, 1964; Carter, 1965; Christie, *this vol.*, p. 624).

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