



Fig. 9. Density and refractive index of 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 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 α -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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