A more detailed description of the containing ring and its use is given in the section "Experimental Facilities and Procedures". Using equations (29) and (46), the mid-meridian constraint pressure becomes

$$P_c = \left(\frac{R_c}{5.32 \times 10^{-8}}\right) \left[a_1 R_c^2 + a_3\right] \qquad (48)$$

In the absence of a constraining ring, P_c is zero. If the total axial deflection along the wafer axis is defined as Δ, the third boundary condition becomes

$$r = 0, \quad z = h_c; \quad \omega = -\Delta/2 \qquad (49)$$

where h_c is one-half the wafer height, measured along its axis, at any given load. Substituting the conditions of (49) into (30) gives

$$a_3 = \frac{\Delta}{2(2h_o - \Delta)} - \frac{a_2}{4}(2h_o - \Delta)^2 \qquad (50)$$

where $2h_c$ is the initial wafer height.

The assumption is now made that the amount of shear