to be computed, and indeed with no significant loss in accuracy, since $C_{11}' \cong (C_{11} - C' + C)$, $C_{55}' \cong C$ and $C_{66}' \cong C'$. This computation has been carried through and the results are shown in Table IV A, where they are compared with the same quantities obtained from the work of Bacon and Smith[4]. Since Bacon and Smith used much different electronics, a different method of observation, and different crystals, the excellent agreement constitutes a successful test of the pulse-echo method in its usual form.

Before turning from the [110] crystal, we note that from the observed values for this crystal of C_{11}', C_{55}' and C_{66}', the quantity C_{11} can also be computed from Equations 1 (in addition to C and C' of course), although in this case with less accuracy because observations must be combined in an important way. Thus we have $C_{11} = (C_{11} - C' + C) + C' - C \cong C_{11}' + C_{66}' - C_{55}'$. With values of C_{11}, C and C' in hand, the entries of Table I for the [100] and [111] directions can all be obtained, but again with somewhat less accuracy because observations must be combined in all but one case.

We turn now to the reduction of data for the [100] and [111] crystals. These crystals were within 0.1° of the nominal direction. Substitution of the direction cosines of Table II into