Phonon Spectra in A-15 Superconducting Compounds.
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A. ARKO, Argonne National Laboratory.--Sizable samples of
Nb₃Sb (very low T_c) and non-stoichiometric Nb₃Ge(T_c ≈ 6K)
have recently become available and preliminary neutron
scattering experiments are very promising with regard to
determining the phonon spectra of a 'normal' and a moder­
ate T_c A-15 compound for eventual comparison with Nb₃Sn
(high T_c) when larger crystals become available. The
acoustic modes and several low energy optic modes have
been measured in the [100], [110], and [111] directions.

A large good crystal of V₃Si has also been obtained
and there are indications that high energy modes (≈14THz)
have been observed (unidentified at present) that were
not observed in the previous neutron scattering studies
of polycrystalline A-15 compounds. The softening of the
transverse acoustic modes in the [110] and [111] direc­
tions has also been observed at low temperatures and will
be discussed.

*Operated by Union Carbide Corporation under contract
W-7405-eng-26 with the U.S. Department of Energy.