

TABLE II. Pressure effects on T_c and T_M . For compounds, in which nonlinear pressure behavior exists, the quoted values are for $P=1$ bar. We have also found that, dT_M/dP and dT_c/dP of La_3S_4 and La_3Se_4 have opposite signs. This may be caused by the slight difference in compositions. Details are still under study. The unusually large values of dT_c/dP and dT_M/dP may be associated with the virtual f states of La.

Compound	T_c (K)	dT_c/dP (10^{-5} K bar $^{-1}$)	T_M (K)	dT_M/dP (10^{-4} K bar $^{-1}$)
V_3Si	16.5	+3.65 ^a	21.5	-1.5 ^a
Nb_3Sn	17.8	-1.40 ^b	43.2	+3.3 ^b
$\text{V}_{0.54}\text{Ru}_{0.46}$	4.92	+0.91 ^c	45	-3.2 ^c
HfV_2	8.9	+6.5 ^d	128	-8 ^d
ZrV_2	7.9	~ 0 ^d	124	-1 ^d
La_3S_4	8.1	+11 ^e	86	+13 ^e
La_3Se_4	7.6	+7 ^e	65	+38 ^e

^a C. W. Chu and L. R. Testardi, Phys. Rev. Lett. **32**, 766 (1974).

^b Reference 13.

^c C. W. Chu *et al.*, Phys. Rev. B **11**, 1866 (1975).

^d T. F. Smith *et al.*, J. Phys. F **3**, 2157 (1973).

^e R. N. Shelton *et al.*, Mater. Res. Bull. **10**, 1111 (1975).

structural transition at T_M in A15 isotropic compounds in a certain way. For the layer compounds, the macroscopic local conditions have been shown^{16,17} to have a smaller effect on T_0 than on T_d . On the other hand, the occurrence of the structural transformation at T_M in an isotropic superconductor¹⁸ depends sensitively on the sample conditions, e.g., impurity and local strain as

reflected in the drastic variation of T_M with the resistance ratio (or the mean life time of the d electrons) of the sample.^{19,20} In this sense, the structural transition at T_M in the isotropic superconductors seems to be more reminiscent of the T_d transition than the T_0 transition in the layer compounds. It would thus not be too surprising for one to see another transition corresponding to the onset of an incommensurate CDW in A15 high- T_c superconductors above T_M .

In conclusion, we have determined the effect of pressure on the formation of the CDW in $2H\text{-NbSe}_2$. Analysis of the acoustic and the present results indicates that interlayer coupling may have a large effect on the CDW formation in $2H\text{-NbSe}_2$. Comparison of these results with those on $2H\text{-TaSe}_2$ suggests that the suppression of T_0 by pressure is not a necessary condition for the enhancement of superconductivity. By examining all available high-pressure data on both layered and isotropic unstable superconductors, we find that $|dT_c/dP|$, $|dT_0/dP|$ or $|dT_M/dP|$, and $|dT_d/dP|$ fall into three distinct orders of magnitude. The similarity of the data for the isotropic and layer compounds with structural instabilities is not inconsistent with the existence of CDW's in both classes of materials, although more information is needed concerning the exact nature of the transition of an isotropic superconductor at T_M . This is in agreement with the proposition that the electron energy spectrum plays a dominant role in the occurrence of the structural instability and superconductivity.

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[Solid State Commun. **18**, 1393 (1976)] have measured T_0 of $2H\text{-NbSe}_2$ up to 36 kbar and observed T_0 decreasing nonlinearly near the critical pressure. These authors suggest that dT_c/dP and dT_0/dP should always have opposite signs.

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