and 600° K. The
o 750° K and the
ole above 825° K.
se two sets of c_{55}
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ts obtained from
n eq. c_{66} (3) blend
perature measure-
good agreement
740° K. Further-
th curve for the

from different sets

ϱV^2_{FS} vs temperature plot, the interpolated values of ϱV^2_{FS} between 740° and 800° K used in eq. c_{66} (3) give c_{66} values which are in good agreement with eq. c_{66} (2). Between 800° and 850° K, however, the eq. c_{66} (2) values are significantly higher with deviations as great as 1 %. To decide the question of which are the more probably correct values, eq. c_{66} (3) can be restated so as to compute c_{22} indirectly using one or the other c_{66} values, i.e. eq. c_{22} (2). As shown in fig. 2, the c_{22} computed from eq. c_{66} (2) fall about 0.8 % lower than the directly measured c_{22} between 800° and 850° K and indicate an unlikely step in the c_{22} vs temperature curve. As in the adjudication of c_{55}, we dismiss the 0.8 % deviation as due to unknown origin

TABLE 3

Elastic stiffness moduli for α-U at various temperatures between 44° and 923 °K (10^{12} dyn/cm^2)

Temp. (°K)	c_{11}	c_{22}	c_{33}	c_{44}	c_{55}	c_{66}	c_{12}	c_{13}	c_{23}
44	1.500	2.085	2.868	1.407	0.892	0.849	0.275	0.345	1.123
46	1.610	2.090	2.875	1.411	0.901	0.851	0.294	0.320	1.118
48	1.685	2.093	2.878	1.412	0.905	0.851	0.318	0.305	1.115
50	1.740	2.094	2.879	1.411	0.906	0.851	0.339	0.292	1.112
60	1.900	2.095	2.879	1.407	0.904	0.848	0.388	0.256	1.106
73	1.993	2.093	2.875	1.400	0.896	0.844	0.403	0.239	1.098
98	2.063	2.081	2.856	1.384	0.879	0.833	0.425	0.226	1.098
123	2.103	2.070	2.835	1.367	0.862	0.822	0.430	0.221	1.097
148	2.125	2.058	2.813	1.349	0.844	0.811	0.435	0.218	1.095
173	2.138	2.046	2.791	1.332	0.826	0.799	0.441	0.216	1.091
198	2.145	2.035	2.768	1.314	0.807	0.788	0.446	0.216	1.088
223	2.149	2.023	2.745	1.297	0.789	0.777	0.451	0.216	1.084
248	2.151	2.011	2.721	1.280	0.771	0.766	0.454	0.216	1.081
273	2.151	1.998	2.696	1.262	0.753	0.754	0.458	0.216	1.078
298	2.148	1.986	2.671	1.244	0.734	0.743	0.465	0.218	1.076
323	2.144	1.973	2.647	1.228	0.715	0.731	0.471	0.220	1.074
348	2.139	1.961	2.623	1.210	0.695	0.718	0.476	0.222	1.070
373	2.132	1.947	2 597	1.193	0.677	0.708	0.479	0.223	1.069
398	2.125	1.934	2.571	1.176	0.659	0.696	0.483	0.226	1.064
423	2.117	1.919	2.543	1.158	0.640	0.686	0.485	0.228	1.058
448	2.107	1.904	2.513	1.141	0.620	0.675	0.488	0.230	1.052
473	2.097	1.889	2.485	1.122	0.601	0.661	0.494	0.235	1.044
498	2.087	1.874	2.456	1.104	0.579	0.648	0.501	0.240	1.034
523	2.076	1.859	2.427	1.084	0.557	0.632	0.506	0.245	1.027
548	2.063	1.843	2.398	1.065	0.535	0.620	0.511	0.250	1.018
573	2.049	1.827	2.369	1.045	0.513	0.607	0.517	0.257	1.009
598	2.034	1.811	2.338	1.024	0.491	0.591	0.523	0.263	1.000
623	2.018	1.794	2.309	1.003	0.469	0.576	0.528	0.270	0.994
648	2.002	1.777	2.278	0.981	0.448	0.562	0.533	0.276	0.991
673	1.984	1.760	2.249	0.958	0.426	0.546	0.537	0.282	0.987
698	1.965	1.743	2.219	0.937	0.404	0.531	0.540	0.288	0.984
723	1.946	1.724	2.187	0.916	0.383	0.515	0.543	0.297	0.981
748	1.925	1.703	2.153	0.895	0.361	0.497	0.552	0.304	0.976
773	1.904	1.681	2.118	0.873	0.340	0.477	0.566	0.312	0.971
798	1.882	1.658	2.082	0.850	0.318	0.456	0.578	0.320	0.969
823	1.858	1.635	2.049	0.826	0.295	0.433	0.592	0.328	0.967
848	1.832	1.610	2.013	0.804	0.273	0.411	0.603	0.338	0.962
873	1.804	1.584	1.977	0.780	0.253	0.388	0.612	0.349	0.959
898	1.775	1.562	1.942	0.757	0.232	0.365	0.624	0.361	0.954
923	1.742	1.535	1.907	0.734	0.211	0.344	0.630	0.374	0.953