TABLE 2

$\{N_\Gamma(\varepsilon_0, \varepsilon, t)\}^P$

ε_0 \ t	0.5	1	2	3	4	5	7	10
				$\varepsilon = 0.11$				
0,6	0.125	0.14	0,073	0.023	0.007			
1.0	0,28	0.30	0,172	0.060	0.020			
5	1.33	1.67	1.30	0.77	0.405	0.205	0,053	0,009
11	1,98	2.82	2,73	2.10	1.37	0.84	0,295	0,042
20	2.33	3.83	4.73	4.11	3.04	2.05	0.81	0,146
30	2.59	4.63	6,47	6.15	4.90	3.53	1,55	0,327
50	3.01	5.72	9.13	9.76	8.61	6.75	3,36	0.83
				$\varepsilon = 0.2$				
0.6	0,063	0.068	0,036	0,011				
1.0	0,172	0,189	0,105	0.035	0.015			
5	1.09	1.33	0.98	0.538	0.265	0.126	0,032	0.007
11	1.64	2.27	2,16	1.56	1.00	0,591	0.203	0,029
20	1.93	3.07	3.63	3.06	2,21	1,46	0,562	0,096
30	2,16	3.79	5.14	4.75	3.70	2.61	1.11	0,222
50	2,54	4.77	7.35	7.67	6.55	5,03	2.43	0.578
				$\varepsilon = 0.6$				
1	0.025	0.028	0,015	0.008	0.002			
5	0.582	0,69	0,480	0.244	0,108	0,045	0,016	0,003
11	1.00	1,34	1.19	0,80	0.472	0,262	0.079	0,019
20	1,32	1.97	2,12	1.66	1.13	0,70	0,246	0.036
30	1,50	2.45	3.02	2.60	1,91	1.28	0.493	0,087
50	1.66	3,09	4,51	4.37	3,53	2,56	1.12	0.240
				$\varepsilon = 1$				
5	0.382	0.452	0.308	0,152	0,063	0,024	0.004	0.001
11	0.78	1,00	0,83	0,514	0,287	0.152	0,040	0.009
20	1.08	1,53	1.52	1.12	0.732	0,442	0,129	0.027
30	1.28	1,96	2.21	1.80	1.274	0,83	0,299	0.052
50	1.52	2.57	3.38	3,09	2.40	1.69	0.706	0.148

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Heat Capacity of KCl

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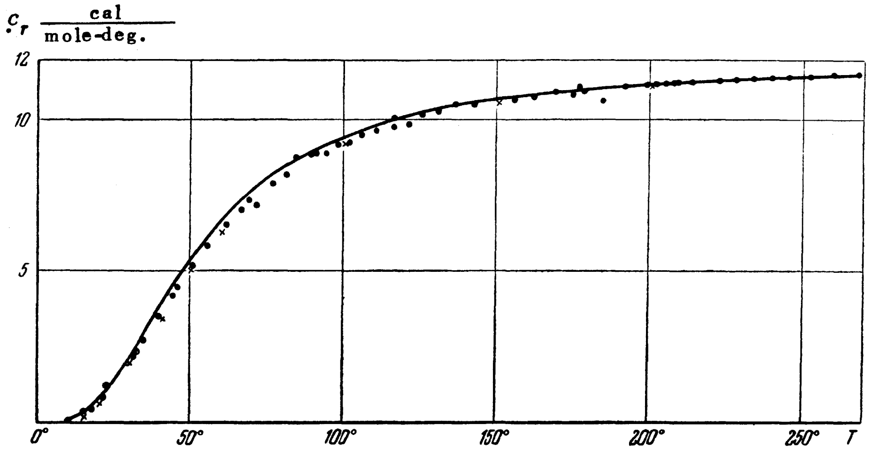
WE have calculated the heat capacity of the KCl crystal for 16 temperatures in the range from $T = 10.89°$ to $T = 267.6°K$. In the determination of the heat capacity, the values of the natural frequencies of KCl were used, calculated by the author in previous work[1,2] by taking into account the deformation of the lattice ions, as well as the



differences in mass of the K and Cl ions. The deformation of the ions was taken into account by the Tolpygo method [3,4].

The results of the calculations are shown in the Figure by the solid curve. On the same curve, in addition to the experimental data[5,6] and the heat capacities taken from the Kaye and Laby[7] and Landolt[8] handbooks, there are also the plotted heat capacities found from the Debye temperatures, determined by Iona[9] for a model of a point lattice and for equal mass of the K and Cl ions; these points are shown by crosses. As is evident from the Figure, it is impossible to express any preference for the present analysis by comparison with the results of Iona. This is associated with the fact that the heat capacity, being an integral value, is not very sensitive to calculation. The fact that at low temperatures the heat capacity was somewhat high indicates a somewhat high value of the parameters a_{11} and a_{22} of the non-electrostatic interaction forces between the ions of KCl, which were taken by the author from Ref. 3.

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Investigation of γ–Rays from Po–Li and Po–Mg Neutron Sources

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WHEN lithium and magnesium are bombarded with α–particles of polonium, all (αn) and (αp) reactions are energetically possible with the exception of reactions αn upon Li^6 and Mg^{24}. Gamma rays are formed in the investigated sources as a result of the nucleus, the product of the corresponding reaction, being in an excited state, or because of its further radioactive decay.

The study of the γ–spectra was carried out by means of single or double crystal scintillation spectrometers and utilizing in the measurement system high stability multipliers FEU–12 which were kindly made available to us by G. S. Vildgrube. The resolution (relative width of the line at its half height) for the Cs^{137} 660 kev γ–line was in all cases not greater than 12%. The stability of the measuring system was so high that during the work extending over more than a month the apparatus did not require any additional calibration.

Figure 1 shows the γ–spectrum obtained from the Po–Mg source. The following γ–rays were found: 0.23; 0.8; 1.25; 1.85; 2.3; 4.2 mev. For lines