THE GAMMA RAYS OF As\textsuperscript{74}

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We have studied the $\gamma$-ray spectrum of As\textsuperscript{74} by means of a single-channel scintillation $\gamma$-ray spectrometer, using a NaI (Ta) crystal with a type FEU-8 photomultiplier. The efficiency curve of the $\gamma$-ray spectrometer was obtained by taking measurements with it on standards giving known numbers of disintegrations.

The energies and relative intensities of the lines observed in the $\gamma$-ray spectrum are given below:

<table>
<thead>
<tr>
<th>E (keV)</th>
<th>Relative Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>610±30</td>
<td>1</td>
</tr>
<tr>
<td>960±50</td>
<td>0.018±0.008</td>
</tr>
<tr>
<td>1200±30</td>
<td>0.020±0.008</td>
</tr>
<tr>
<td>2230±70</td>
<td>~10\textsuperscript{-4}</td>
</tr>
</tbody>
</table>

The work of Grigor'ev et al.\textsuperscript{1} was done earlier than ours; we received the brief communication of Horen and Wells after the completion of our measurements.

The existence of $\gamma$-ray lines of energies of 1190 and 2220 keV can evidently be regarded as established; the other two lines, at 960 and 1600 keV, still need further investigation.

\textsuperscript{1}Grigor'ev, Dzhelepov, Zolotavin, Mishin, Prikhodtseva, Khol'nov, and Shchukin, Izv. AN SSSR, Ser. Fiz. 22, 831 (1958), Columbia Tech. Transl. in press.


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177

ULTRASONIC ATTENUATION IN METALS

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The attenuation of ultrasonic waves in metals at low temperatures is determined by the electron-phonon interaction. The absorption coefficient, $\gamma$, has been calculated by Pippard,\textsuperscript{1} and Steinberg\textsuperscript{2} has examined the corresponding change in the velocity of sound. Bömmel\textsuperscript{3} measured the attenuation in the presence of an external magnetic field and found that $\gamma$ did not vary monotonically with H. This effect was explained by Pippard\textsuperscript{4} as a type of cyclotron resonance. Steinberg\textsuperscript{5} carried out the calculation for transverse waves in a longitudinal magnetic field and concluded that resonance absorption does not occur in this case. Here we examine the attenuation of transverse waves in metals in a transverse magnetic field.

We regard the motion of the atoms of the lattice as given and consider the electrons to be free. We are interested in the case when $l \geq \lambda$, $R \sim \lambda$.

Here $\lambda$ is the wavelength of the sound waves and $l$ is their mean free path. $R = mv/c\, eH$, is the