take into account that at energies $\sim 5-10$ mev the free betatron and synchrotron oscillations are already sufficiently attenuated. This would be the cheapest way of eliminating the transition energy.

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*It is necessary to remark that for the calculation of α, only that part of $\Delta p / p$ is important which corresponds to an oscillation of the momentum about some equilibrium value. We denote it by $(\Delta p / p)_{synch.}$

**By parametric resonance we mean one due to a perturbation of the gradient $\partial H_z / \partial r$; by an external resonance, one due to a perturbation of the field H_z.

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Relaxation Times T_1 and T_2 in Anthracite

N. S. Garif'ianov and B. M. Kozyrev

Institute of Physics and Technology, Kazan Affiliate, Academy of Sciences, USSR

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THE authors were the first to measure the electronic para-magnetic resonance in anthracite (Ref. 1). It was found that the half-width of the absorption line in anthracite is $\Delta H = 0.7$ oersted i.e., considerably smaller than in other types of stone coals. The value $\Delta H = 0.3$ oersted was obtained for anthracite in Ref. 2. Probably the half-width varies somewhat for the different kinds of anthracite. Our last measurements on the samples of Kuzbask anthracite for the frequencies 12.25 and 22 mc gave $\Delta H = 0.5$ oersted. We wanted to determine for anthracite the time of spin-lattice relaxation, T_1. For this purpose, with the above mentioned frequencies, measurements of the degree of saturation (Ref. 3) were made for different amplitudes of the oscillating magnetic field. The magnitude of the amplitude was determined with the method previously used in Ref. 4. The method was checked on $\alpha\alpha$-diphenyl $-\beta-$ picrylhydrazyl, for which $T_1 = 6.6 \times 10^{8}$ sec; moreover, the parameter of the half-width T_2 was taken equal to 6.0×10^{8} sec in correspondence with the halfwidth of the line $\Delta H = 0.95$ oersted found for the monocrystal of the above-named free radical (Ref. 5). The magnitude of T_1 is in good agreement with the researches of Refs. 3 and 6. For the Kuzbask anthracite sample the time T_1 was equal to 12×10^{-8} sec for the core $T_2 \doteq 11.4 \times 10^{-8}$ sec.

The theory of paramagnetic resonance in systems with large exchange interaction (Ref. 5) demands that $T_1 \approx T_2$; therefore, our result confirms the presence of strong exchange in anthracite, noted in Ref. 1.

In conclusion, we point out that for the temperature of liquid air, the relaxation time for anthracite is somewhat longer, since the saturation occurs for smaller amplitudes of the oscillating field. This is in agreement with the concept that the carriers of paramagnetism in anthracite are "broken bonds" between the carbon atoms.

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Concerning the Blatt, Butler, and Shafroth Paper on Superfluidity and Superconductivity Theory

V. L. Ginzburg

P. N. Lebedev Physical Institute, Academy of Sciences, USSR

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IN a series of papers, Blatt, Butler and Shafroth[1-6] concern themselves with the theory of superfluidity and superconductivity, and come forth with some far-reaching conclusions, with which it is impossible to agree. Two points stand out.[1-6] The first, associated with a consideration of the superfluidity and superconductivity of an ideal Bose gas in a vessel, has already been discussed,[7] and has only methodological significance. The second essential point – the statement concerning the finiteness of the correlation length Λ for the momenta of a pair of particles in all real systems, in contrast to an ideal Bose gas, is incorrect. The momentum correlation coefficient is introduced[3] in such a way that it is not directly