

³J. J. Quinn, Phys. Lett. 25A, 522 (1967).

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⁶E. A. Kaner and V. F. Gantmakher, Usp. Fiz. Nauk 94, 193 (1968) [Soc. Phys. Usp. 11, 81 (1968)].

ERRATUM

DIFFUSION OF POSITIVE MUONS IN VANADIUM.
A. T. Fiory, K. G. Lynn, D. M. Parkin, W. J. Kossler, W. F. Lankford, and C. E. Stronach
[Phys. Rev. Lett. 40, 968 (1978)].

In the receipt date line, "received manuscript" should read "revised manuscript."

The value for σ given in the sixth line, second column, page 969, should read $\sigma = 0.370 \mu\text{s}^{-1}$.

An inadvertent transposition of lines in the first column of page 970 rendered a portion of this paper unreadable—lines 9–25 should precede the first eight lines on this page. The text beginning with the last paragraph on page 969 through the end of the first column of page 970 should read as follows:

We have plotted the temperature dependence of a depolarization rate Λ defined through $A(\Lambda^{-1}) = e^{-1}$ in Fig. 1. The depolarization rate of $0.209 \mu\text{s}^{-1}$ is observed at $T = 10$ K in the 1786-Oe field and is equal, within statistical error, to the $0.208\text{-}\mu\text{s}^{-1}$ depolarization rate measured in a 400 Oe field by Harmann *et al.*¹⁴ It appears that the Zeeman limit applies to our high-field data.¹¹ There is a local maximum in Λ in the vicinity of 80 K, where the character of the diffusion process apparently changes.

The temperature dependence for the correlation rate τ^{-1} is shown in Fig. 2. For $T \lesssim 50$ K it is linear, where $\tau^{-1} = (2.4 \pm 0.8) \times 10^4 \text{ s}^{-1} \text{ K}^{-1} T$ and the normalized $\chi^2 = 2.1$. The theoretical expression for multiphonon processes, asymptotically approaching $\tau^{-1} \propto T^7$ at low temperatures,¹ does not fit these data, where we find $\chi^2 \sim 10^{11}$. At these temperatures the jump rates for hydrogen (extrapolated¹⁵) and τ^{-1} for the muon data are of the same order of magnitude. We believe it unlikely that the low-temperature behavior is an effect of trapping and detrapping from impurities, since we expect the binding enthalpy to impurities to be on the order of 0.1 eV, as it is for hydrogen.

In the region $T > 50$ K, on the other hand, the τ^{-1} values are much smaller than the jump rates observed for hydrogen. This is explained by impurity trapping at high temperatures, where τ is close to being the mean time of stay at impurities.⁵ We note that for a jump rate on the order of $3 \times 10^7 \text{ s}^{-1}$, the muon may diffuse a distance equal to the mean distance between the impurities in $2.2 \mu\text{s}$. We therefore associate the structure in Λ and τ^{-1} observed for $T > 50$ K with impurity trapping. In the absence of trapping, positive curvature in τ^{-1} vs T is expected at higher temperatures,¹ where multiphonon processes begin to contribute.