

MEASUREMENT OF THE PROBABILITY OF
THE $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$ REACTION. FINAL
RESULTS

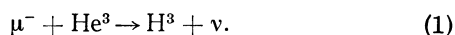
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IN previous work^[1] we reported on the investi-
gation of the reaction



We found then 90 events belonging to the reaction (1).
In this article we present the final results of our
experiment with a diffusion chamber, filled with
 He^3 , based on about 200 events belonging to the
given reaction. The experimental method, treat-
ment of results, and notation remain the same as
in our previous work. The complete results are
summarized in the table.

The final result for the probability of reaction
(1) is

$$(\Lambda_{\text{He}^3})_{\text{exp}} = (1.41 \pm 0.14) \cdot 10^3 \text{ sec}^{-1}.$$

This value is in full agreement with our previous,
less precise result.

The deductions that can be made on the basis of
the known values of the coupling constants do not
differ from those we gave before. The muon-
electron symmetry in interaction with a nucleon,
lying at the base of the universal theory, is not
contradicted by our experimental results, obtained
with 10% accuracy.

In conclusion we express our deep gratitude to
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Data on muons stopped in He^3

Method	Number of events from reaction (1) ($L \geq 20$ mm)		Number of μe -decays ($L \geq 20$ mm)			
	recorded	with correc- tion for efficiency	electron seen	electron not seen	correction for mesic atoms of C and O	accepted for the calculation
I	182,2±16.9	209.4±20.0	49973±372	18171±1008	-681±204	67463±1093
II	171.0±15.5	211.1±20.7				

¹Zaïmidoroga, Kulyukin, Pontecorvo, Sulyaev,
Falomkin, Filippov, Tsupko-Sitnikov, and Shcher-
bakov, JETP 43, 355 (1962), Soviet Phys. JETP 16,
255 (1963).