Measurement of the Muon Lifetime†

J. Doe[a], I.S. Astudent[b], and I. Didit[b]

[a] *LEPSI, CRN Strasbourg 67037, France*
[b] *Department of Physics, The Ohio State University, Columbus, OH 43210, USA*

Abstract

We have measured the muon lifetime using a stunning new aparatus. Our results are inconsistent with those measured previously, but could be explained by a new decay mode mediated by the lepto-quark recently observed at HERA.

Property	A	B	C
1 [eV]	5.5	1.12	1.43
2 [$cm^2V^{-1}s^{-1}$]	1200	480	400
3 [km/s]	220	82	80
Mass Density [gm cm^{-3}]	3.5	2.33	5.32
Atomic Charge	6	14	31

Table 1. The physical properties of muons

1. Introduction

The muon is an ideal particle to test weak decay dynamics. In Table 1 we list some of the propertiesof the muon.

In the context of the Fermi theory, the muon lifetime is predicted to be

$$\Gamma = \#G_F m_\mu^5 \tag{1}$$

A survey of previous experiments may be found in [1], not that we bothered to read them.

2. Apparatus

Figure 1 shows the apparatus.

3. Conclusions

Look for us in Stockholm.

† Presented by J. Doe, E-mail: doe@ohstpy.mps.ohio-state.edu

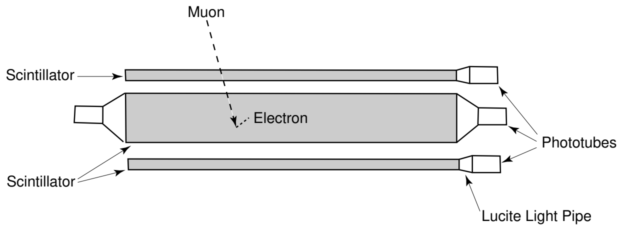

Figure 1. The experimental apparatus used to measue the muon lifetime.

4. References

[1] M. Franklin *et al.*, Nucl. Instr. and Meth. **A315** (1992) 39.
[2] L. Lederman *et al.*, Nucl. Instr. and Meth. **A315** (1952) 39.