

Abstract Submitted
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Characterization of the Muon through Application of Python Data Analysis.¹ CHRISTOPHER GAMBLE, Mass College of Liberal Arts — Muons are subatomic particles that are most commonly the result of cosmic rays or created by particle accelerators. These particles have the same charge as an electron but have two hundred times the mass. The muon is unstable and decays into many different lighter particles, most commonly into an electron, an electron anti-neutrino, and a muon neutrino. Through analyzing these decays, we can understand the mediating mechanism of subatomic particle decay called the Weak Force, a component of our current Standard Model of particle physics. This study uses muons created by neutrino interactions in the MINER ν A detector, a neutrino scattering experiment at Fermilab.

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