FY3403 Particle physics
Problemset 3 fall 2008

NTNU

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Problem 5. Interaction processes and Feynman diagrams

Draw Feynman diagrams for the following interaction processes (if the process is possible)

a) $e^- + \mu^- \longrightarrow e^- + \mu^-$

b) $e^- + \mu^+ \longrightarrow e^- + \mu^+$

c) $e^- + \mu^+ \longrightarrow e^+ + \mu^-$

d) $e^- + e^+ \longrightarrow \mu^+ + \mu^-$

e) $e^- + e^+ \longrightarrow e^+ + e^-$

f) $e^- + \nu_\mu \longrightarrow e^- + \nu_\mu$

g) $e^- + \nu_\mu \longrightarrow \nu_e + \mu^-$

h) $e^- + \nu_e \longrightarrow e^- + \nu_e$

i) $\tau^- \longrightarrow \mu^- + x$ (replace x by some possible set of particles)

j) $\nu_e + \nu_\mu \longrightarrow \nu_\mu + \nu_e$