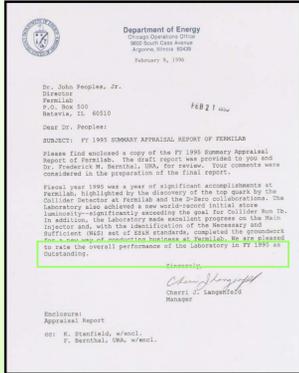


DOE Notes Progression to the Top



Before

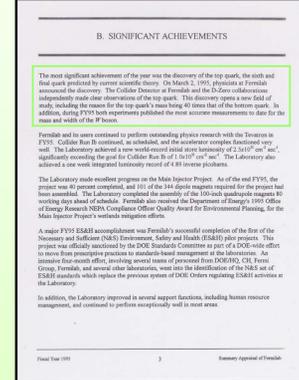
During

After!

FERMIONS			matter constituents		
Leptons spin = 1/2			Quarks spin = 1/2		
Flavor	Mass GeV/c ²	Electric charge	Flavor	Approx. Mass GeV/c ²	Electric charge
e^- electron	$< 2 \times 10^{-6}$	0	u up	4×10^{-3}	2/3
ν_e electron neutrino	5.1×10^{-6}	-1	d down	7×10^{-3}	-1/3
μ^- muon	$< 3 \times 10^{-4}$	0	c charm	1.5	2/3
ν_μ muon neutrino	0.106	-1	s strange	0.15	-1/3
τ^- tau	$< 4 \times 10^{-2}$	0	t top (not observed)	> 89	2/3
ν_τ tau neutrino	1.784	-1	b bottom	4.7	-1/3

FERMIONS			matter constituents		
Leptons spin = 1/2			Quarks spin = 1/2		
Flavor	Mass GeV/c ²	Electric charge	Flavor	Approx. Mass GeV/c ²	Electric charge
e^- electron	$< 7 \times 10^{-6}$	0	u up	0.005	2/3
ν_e electron neutrino	0.000511	-1	d down	0.01	-1/3
μ^- muon	< 0.0003	0	c charm	1.5	2/3
ν_μ muon neutrino	0.106	-1	s strange	0.2	-1/3
τ^- tau	< 0.03	0	t top (limited evidence)	170	2/3
ν_τ tau neutrino	1.7771	-1	b bottom	4.7	-1/3

FERMIONS			matter constituents		
Leptons spin = 1/2			Quarks spin = 1/2		
Flavor	Mass GeV/c ²	Electric charge	Flavor	Approx. Mass GeV/c ²	Electric charge
e^- electron	$< 1 \cdot 10^{-6}$	0	u up	0.003	2/3
ν_e electron neutrino	0.000511	-1	d down	0.006	-1/3
μ^- muon	< 0.0002	0	c charm	1.3	2/3
ν_μ muon neutrino	0.106	-1	s strange	0.1	-1/3
τ^- tau	< 0.02	0	t top	175	2/3
ν_τ tau neutrino	1.7771	-1	b bottom	4.3	-1/3



Source: DOE Annual Summary Appraisal of Fermilab Performance, FY 1995



DOE Batavia Area Office (now Fermi Site Office), 1994. Front L-R: Ed Bucki, Rob Guerrero, Kathy Hall, Ron Lutha, Donna Staples, Ruth Salach. Back L-R: Randy Nack, Craig Carpenter, Paul Philp, Andy Mravca (Area Office Manager), Jim Miller, Doug Thompson. Not pictured: Norm Hansen, Jon Cooper.

"This discovery serves as a powerful validation of federal support for science. Using one of the world's most powerful research tools, scientists at Fermilab have made yet another major contribution to human understanding of the fundamentals of the universe."

-- Hazel R. O'Leary,
Secretary of Energy



1995 Top Quark Announcement Press Conference. Dr. Martha Krebs, Director, DOE Office of Science; Honorable Dennis Hastert, U.S. House of Representatives, R-IL.