Matt Murphy

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VDC Efficiency

Same criteria used for carbon:

- Non-zero track efficiency:
  First cut on PID and trigger (sample 1), then on non-zero track events
  R1 = #(*non-zero track events*)/#(*sample 1)*
- One-track efficiency:
  Cut on PID, trigger, and acceptance (sample 2),
  then on one-track events that trace back to within 5σ of the target
  R2 = #(*one track events within 5σ*)/#(*sample 2*)
- Total efficiency = R1*R2

	Run 728	Run 732	Run 737	Run 741	Run 746	Run 749	Run 754	Run 757	Run 762
R1(%)	99.63	99.86	99.85	99.84	99.85	99.85	99.83	99.82	99.83
R2(%)	97.31	94.28	94.10	94.97	95.08	95.66	96.02	96.23	96.24
E(%)	96.95	94.15	93.95	94.82	94.94	95.52	95.86	96.06	96.08
Carbon E at same **p**	95.76	95.19	95.18	95.37	95.20	95.24	95.08	94.94	94.99

A few of these are slightly lower than carbon ⇒ Look at efficiency as a function of acceptance cuts to determine if any tweaks are needed

Live time

LT = #(*events recorded*)*prescale/#(*events sent to DAQ*)

	Run 728	Run 732	Run 737	Run 741	Run 746	Run 749	Run 754	Run 757	Run 762
LT(%)	98.45	98.14	97.78	98.50	98.45	98.23	97.76	98.16	98.52
Carbon at same **p**	98.32	98.39	98.47	98.42	98.60	97.43	98.25	98.19	98.30

Beam Charge (μC)

	Run 728	Run 732	Run 737	Run 741	Run 746	Run 749	Run 754	Run 757	Run 762
Unew	2988.14	2716.04	2755	3719.31	2688.05	2838.42	3113.27	3445.78	2730.8
Dnew	2953.26	2801.75	2721.9	3828.59	2766.77	2811.59	3203.63	3413.36	2709.77
Average	2970.7	2758.895	2738.45	3773.95	2727.41	2825.005	3158.45	3429.57	2720.285
Carbon	2527.11	2636.67	2658.98	3990.3	2749.1	2701.9	2437.80	2603.14	2880.84