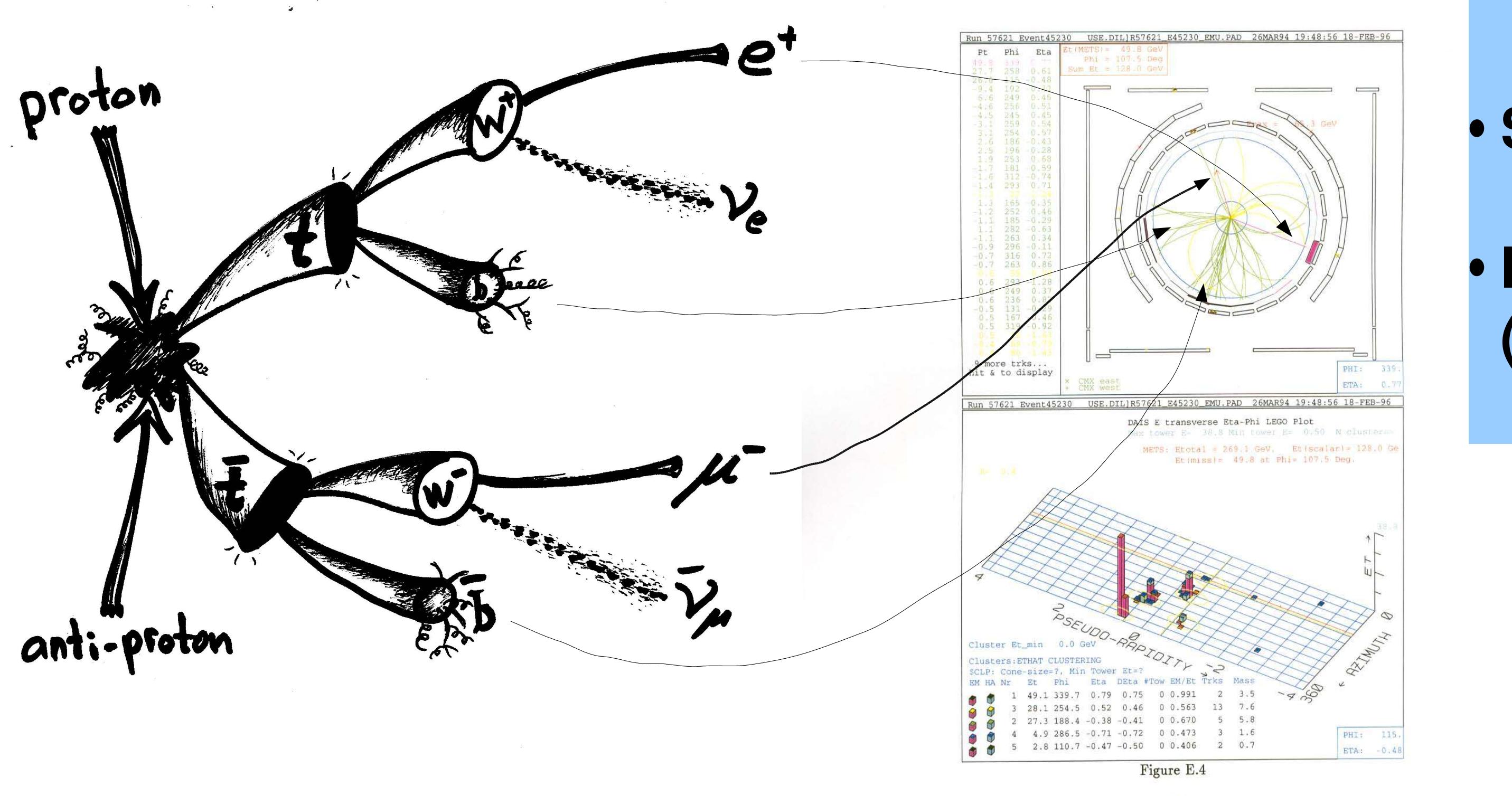
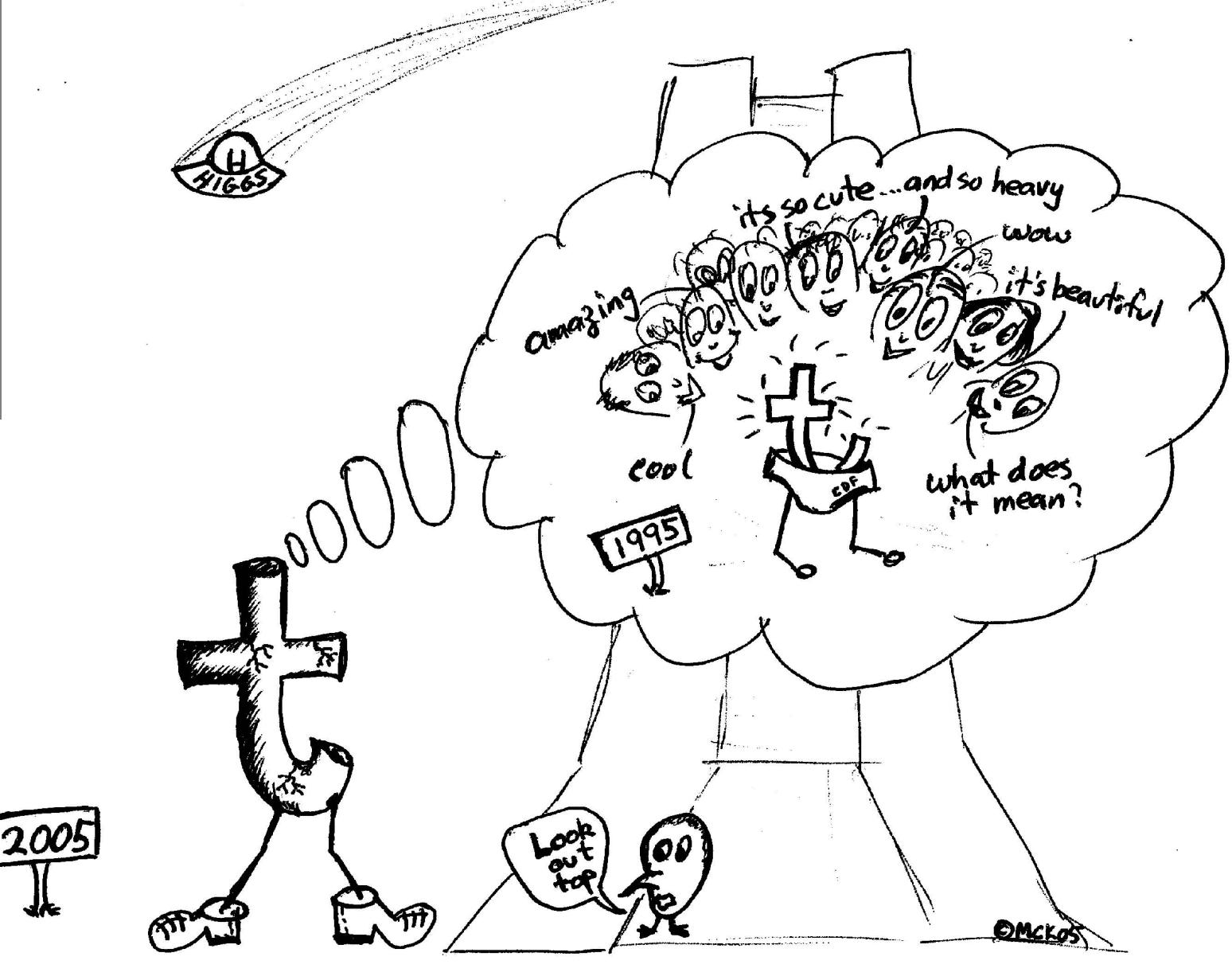




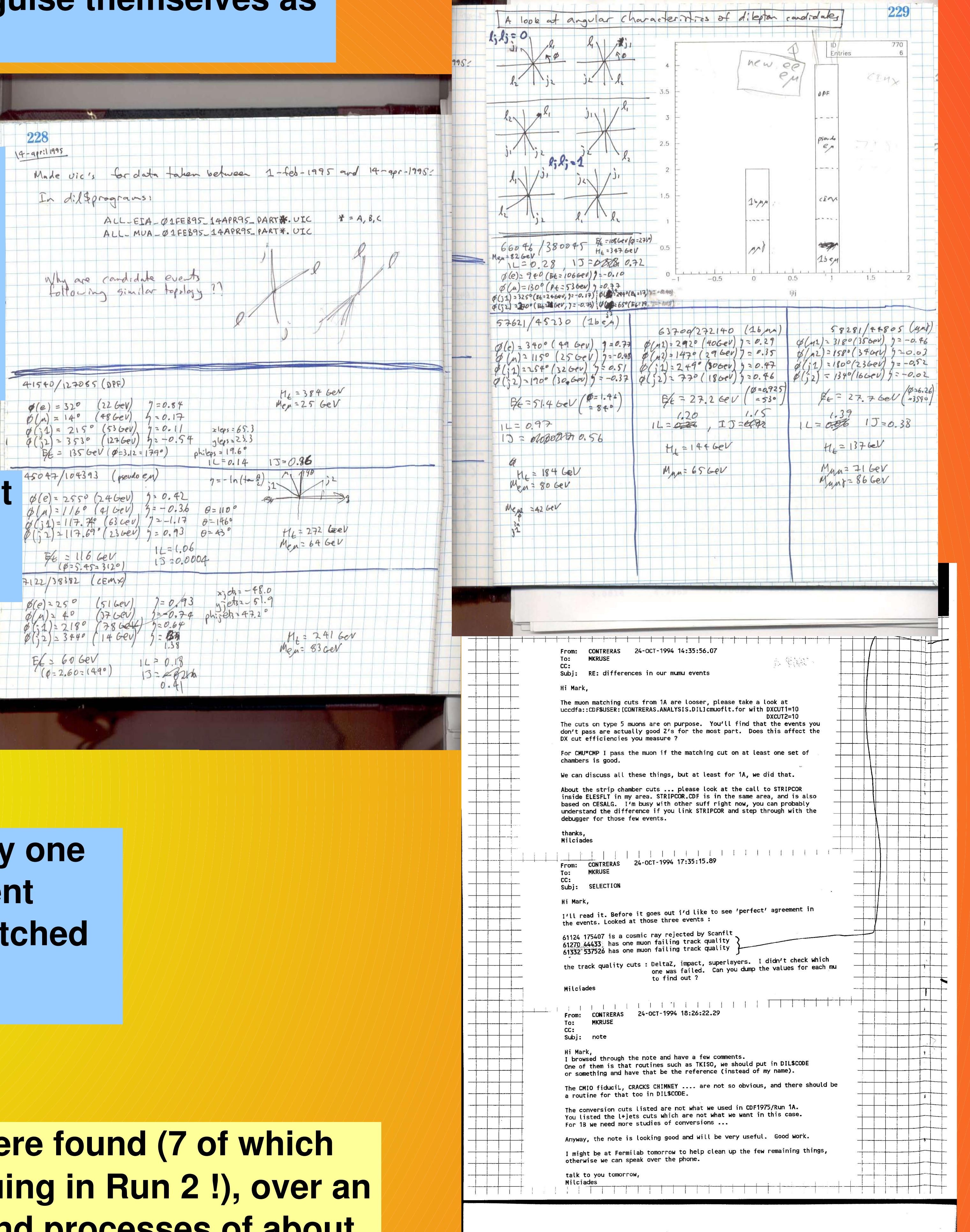
A walk down top-quark lane



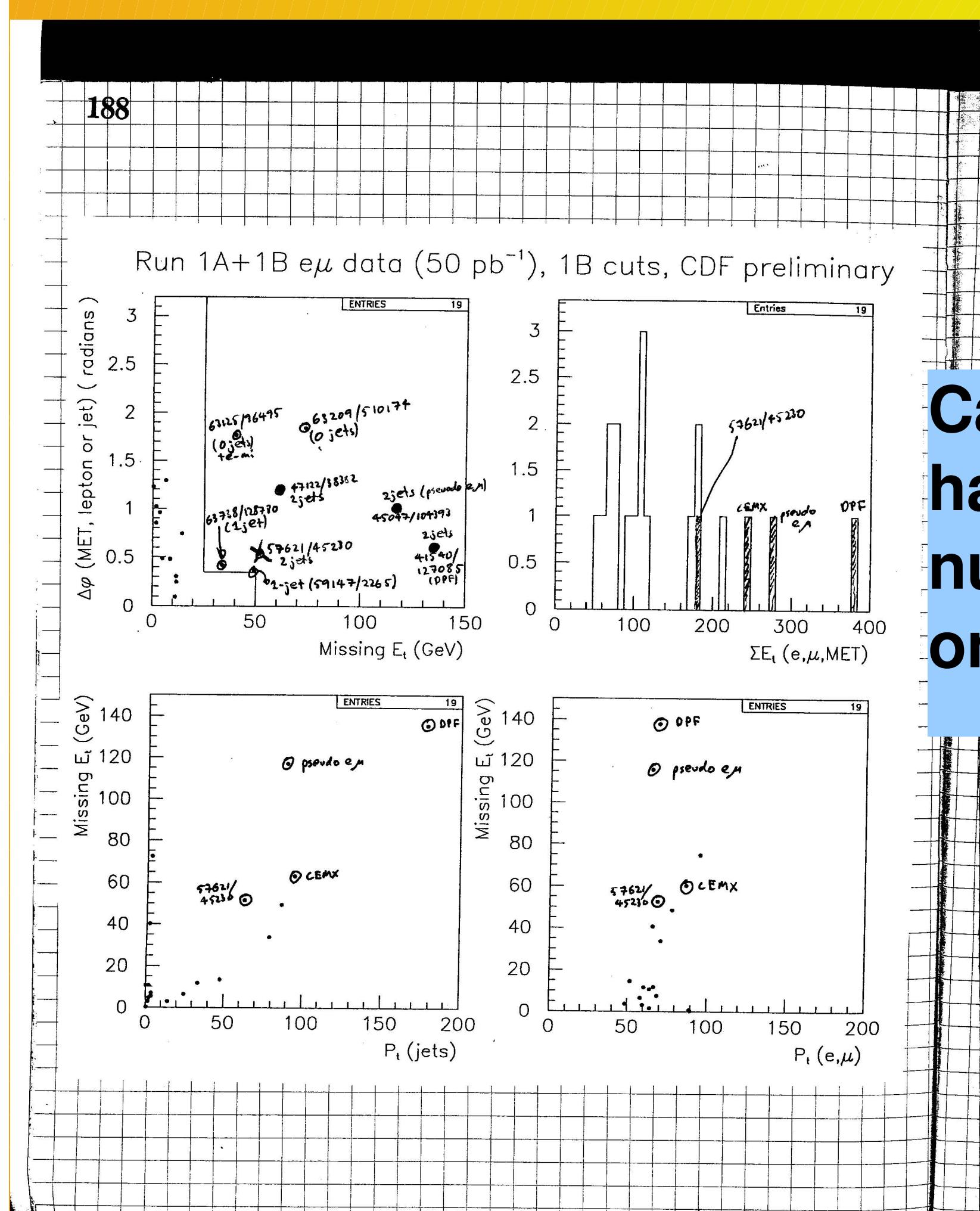
- Top can have many signatures based on how the W bosons decay
- Searching for top in the dilepton decay channel was my thesis topic back in 1995.....
- It is the rarest decay channel, but also the cleanest (relatively few other processes can disguise themselves as dilepton top-quark events)



In 1995 graduate students
didn't have laptops ! Everything
was written and pasted into
logbooks – from notes, to plots
and tables, to printed emails
(so logbooks filled up very fast !!)



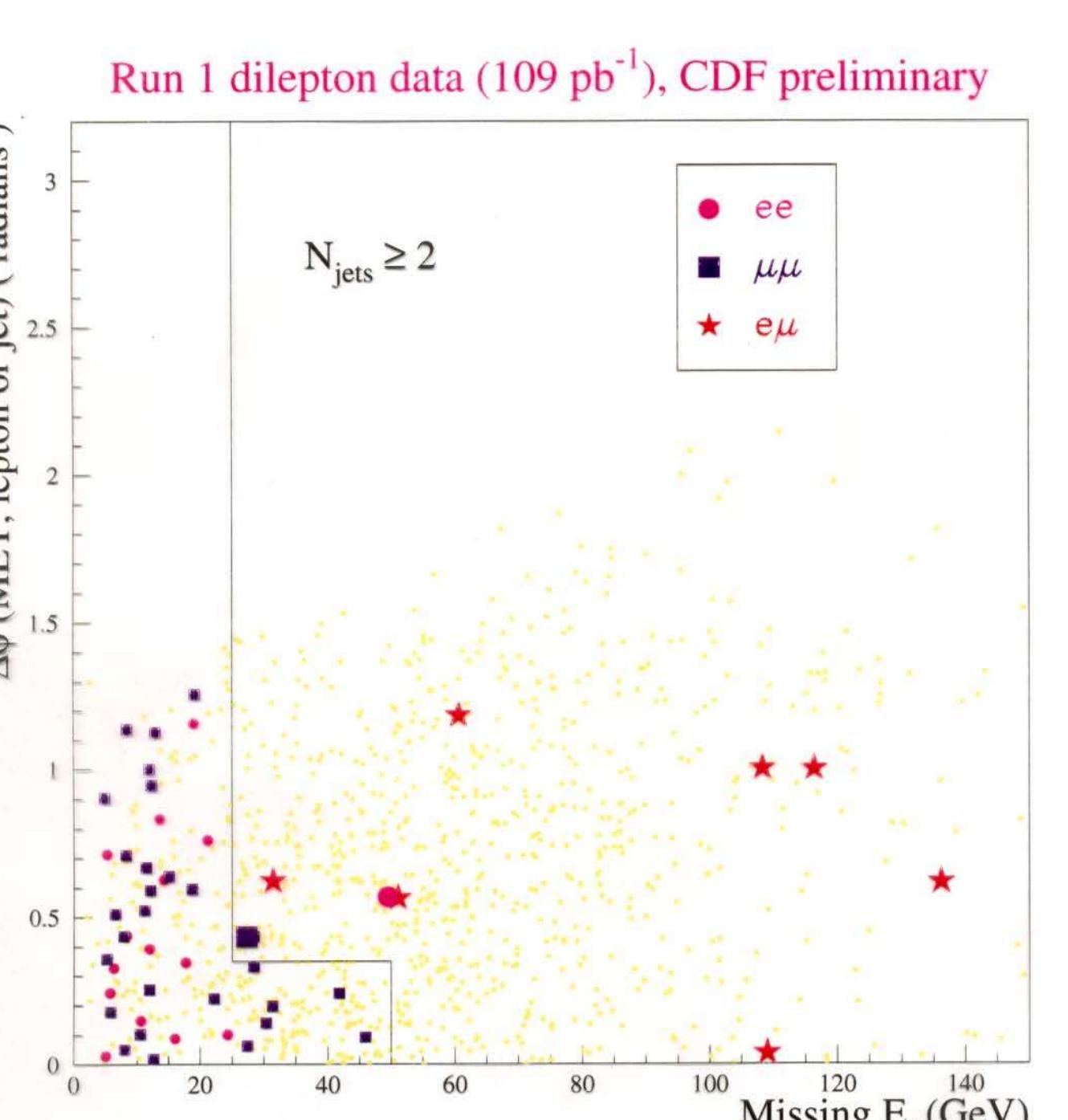
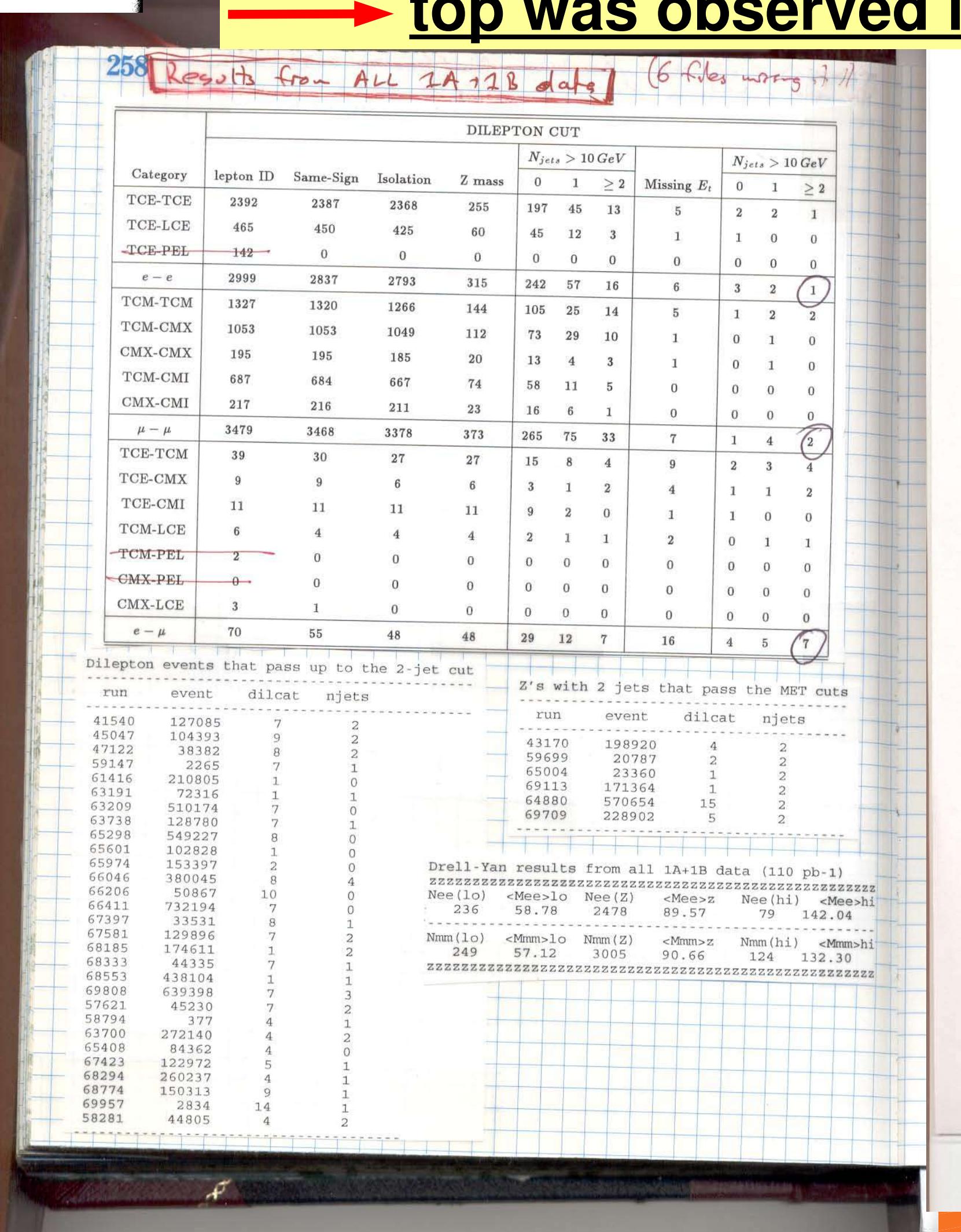
This was a good thing....these logbooks are now permanent records....which you can touch and feel....unlike our more modern but ethereal electronic records



Candidate events were rare.....every one
had a name, and every run and event
number and kinematic detail was etched
on our brain.

In the end, 9 top candidates were found (7 of which
were eμ, which remains intriguing in Run 2 !), over an
expectation from all background processes of about
2.5 events.....

→ top was observed in the dilepton channel



OBSERVATION OF TOP QUARK PAIR PRODUCTION IN THE DILEPTON
DECAY CHANNEL FROM PROTON-ANTIPROTON COLLISIONS AT

$\sqrt{s} = 1.87 \text{ TeV}$

A Thesis

Submitted to the Faculty
of
Purdue University
by

Mark Charles Kruse

In Partial Fulfillment of the
Requirements for the Degree

of

Doctor of Philosophy

May 1996

Mark C. Kruse
Duke University (now)
Purdue University (then, as a graduate student)