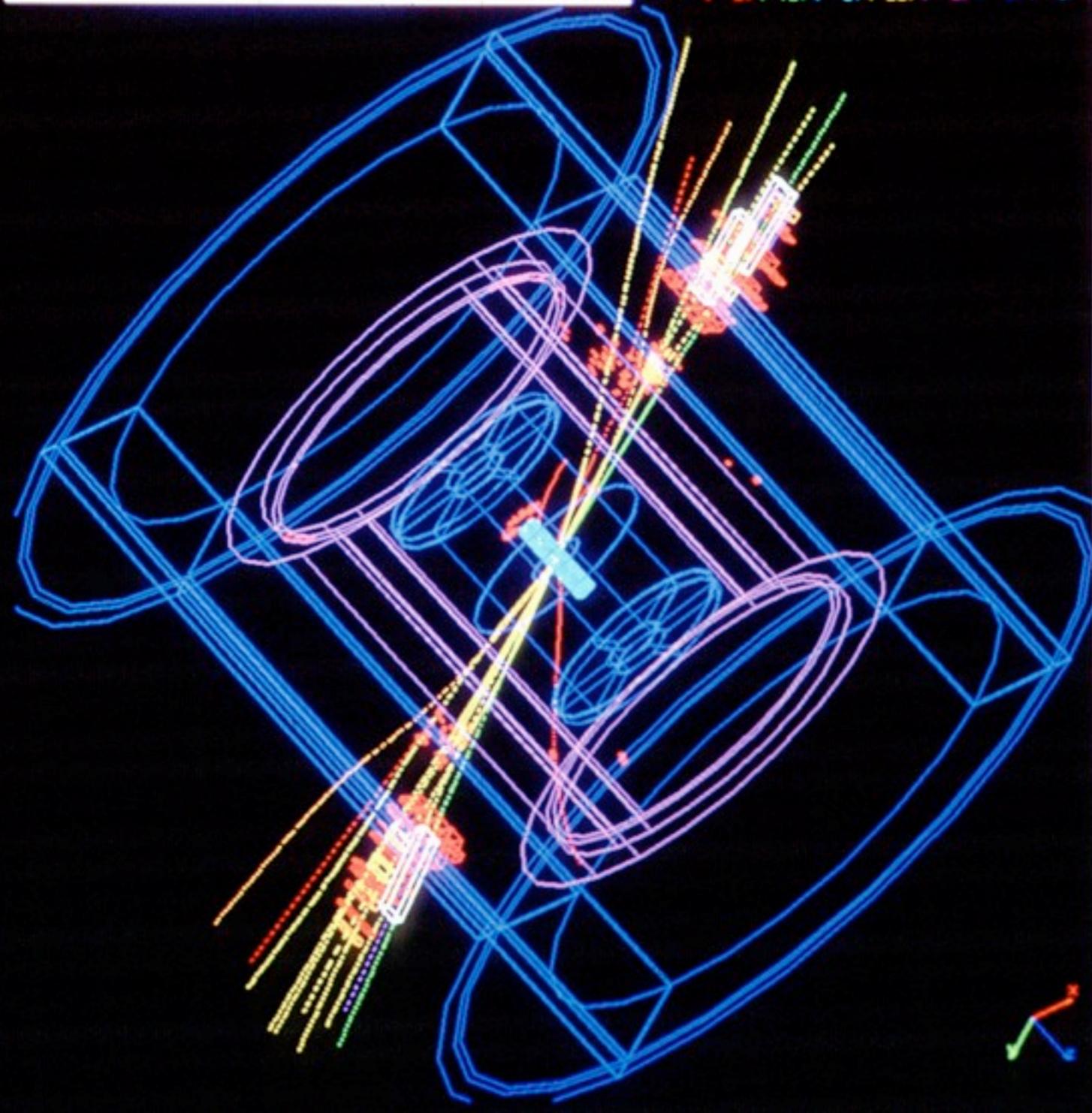


DELPHI Interactive Analysis
Beam: 45.8 GeV Run: 26154 DAS: 25-Aug-1991
Proc: 1-Oct-1991 Evt: 3018 21:47:02
Scan: 15-Jan-1992

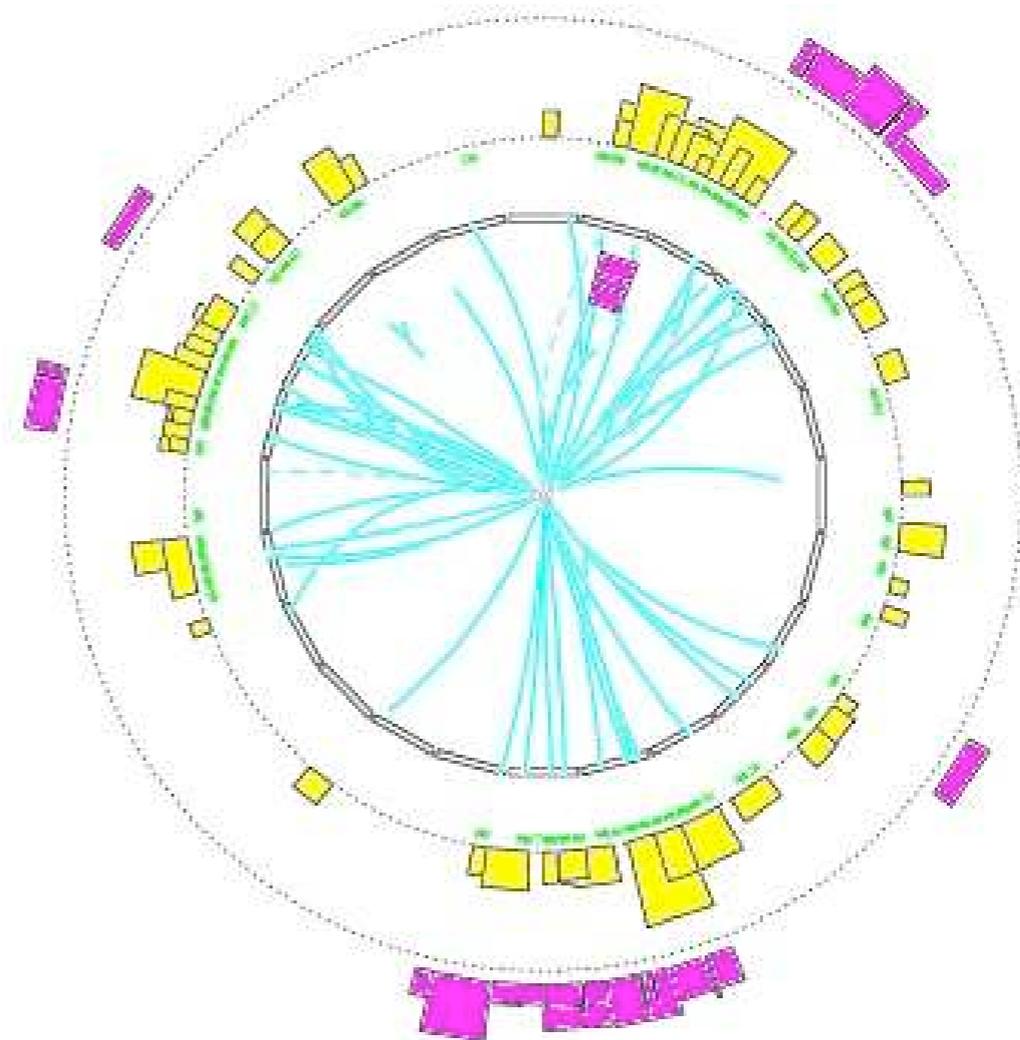
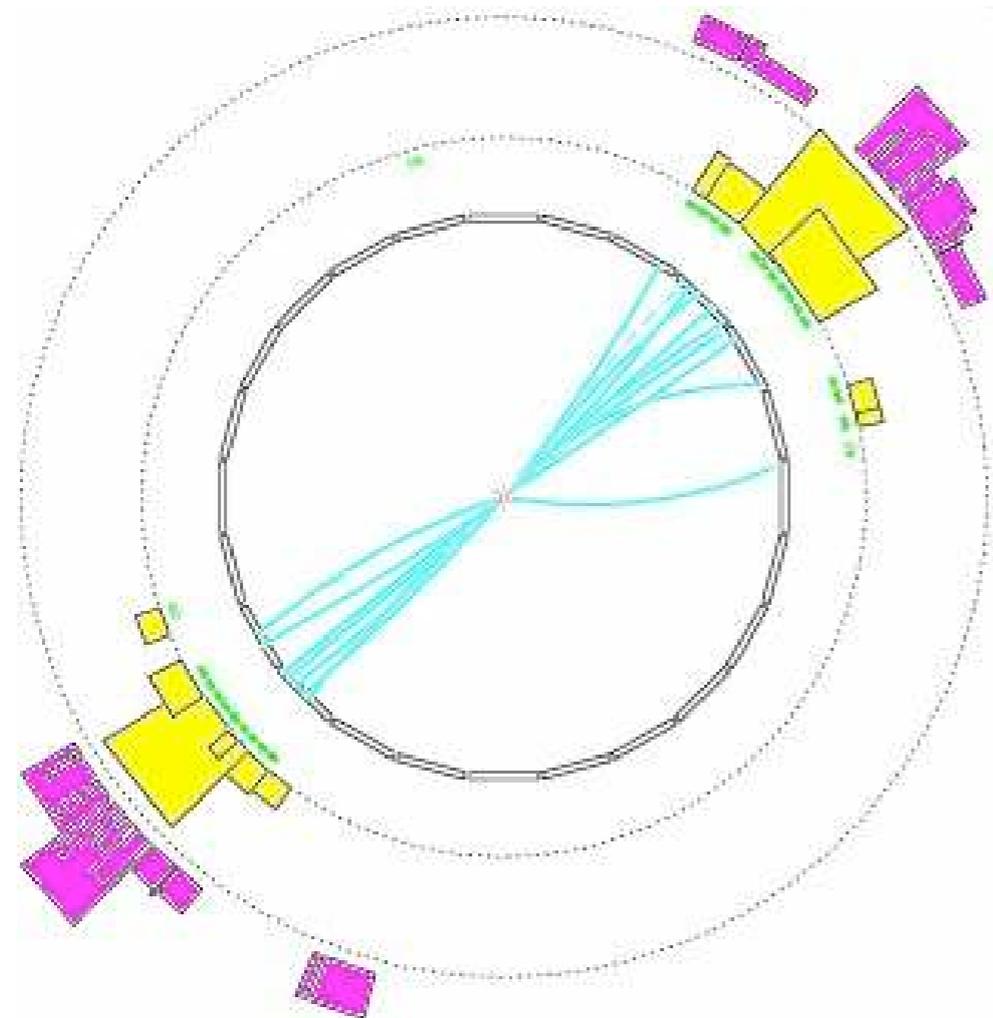
	TD	TE	TS	TK	TV	ST	PR
Net	92	18	0	28	0	0	0
	< 95 >	< 188 >	< 0 >	< 28 >	< 0 >	< 0 >	< 0 >
Daust	0	0	0	0	0	0	0
	< 0 >	< 18 >	< 0 >	< 28 >	< 0 >	< 0 >	< 0 >

- DELPHI
- ENDCAPS
- BARREL
- CENTRAL
- Return

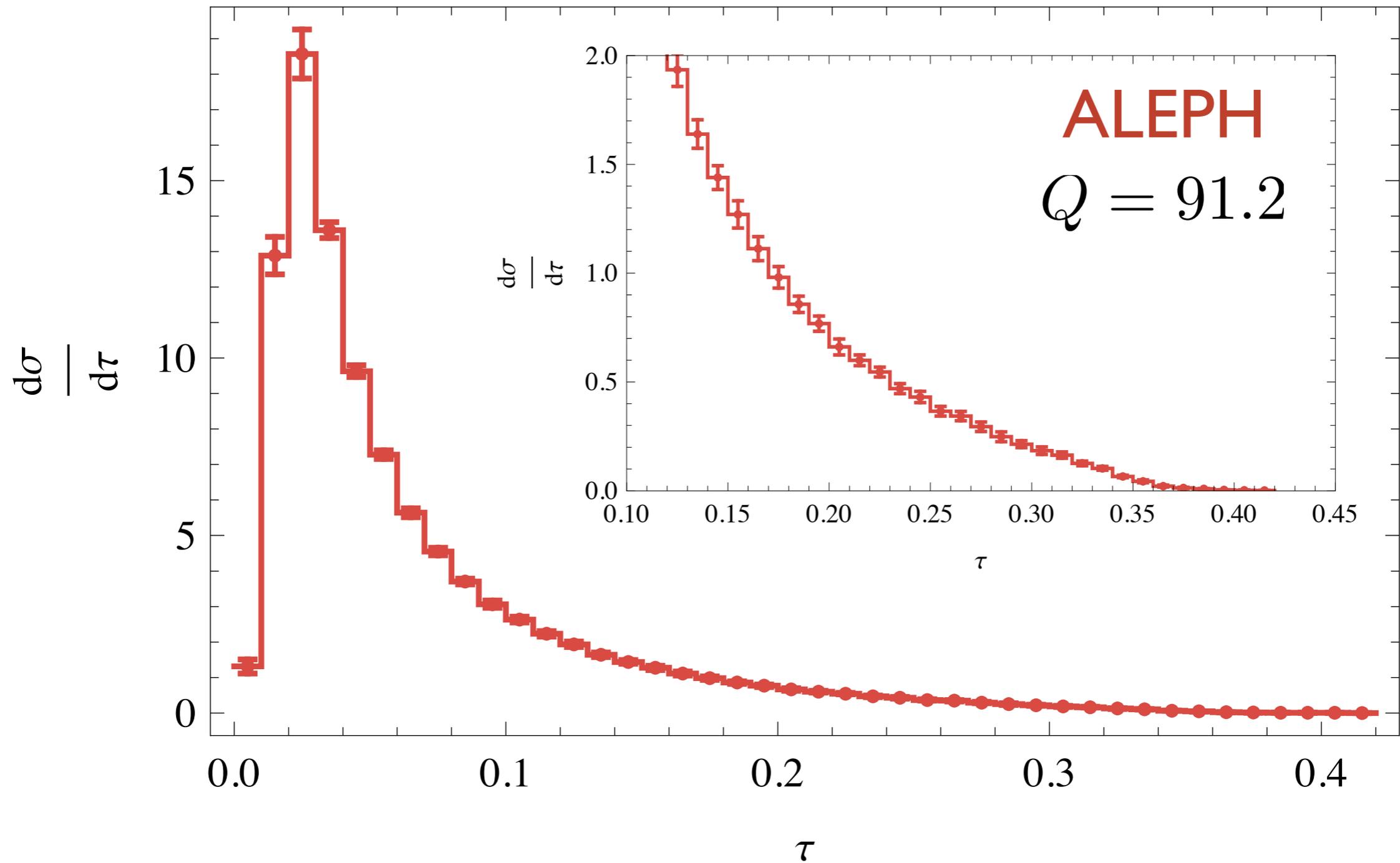


+

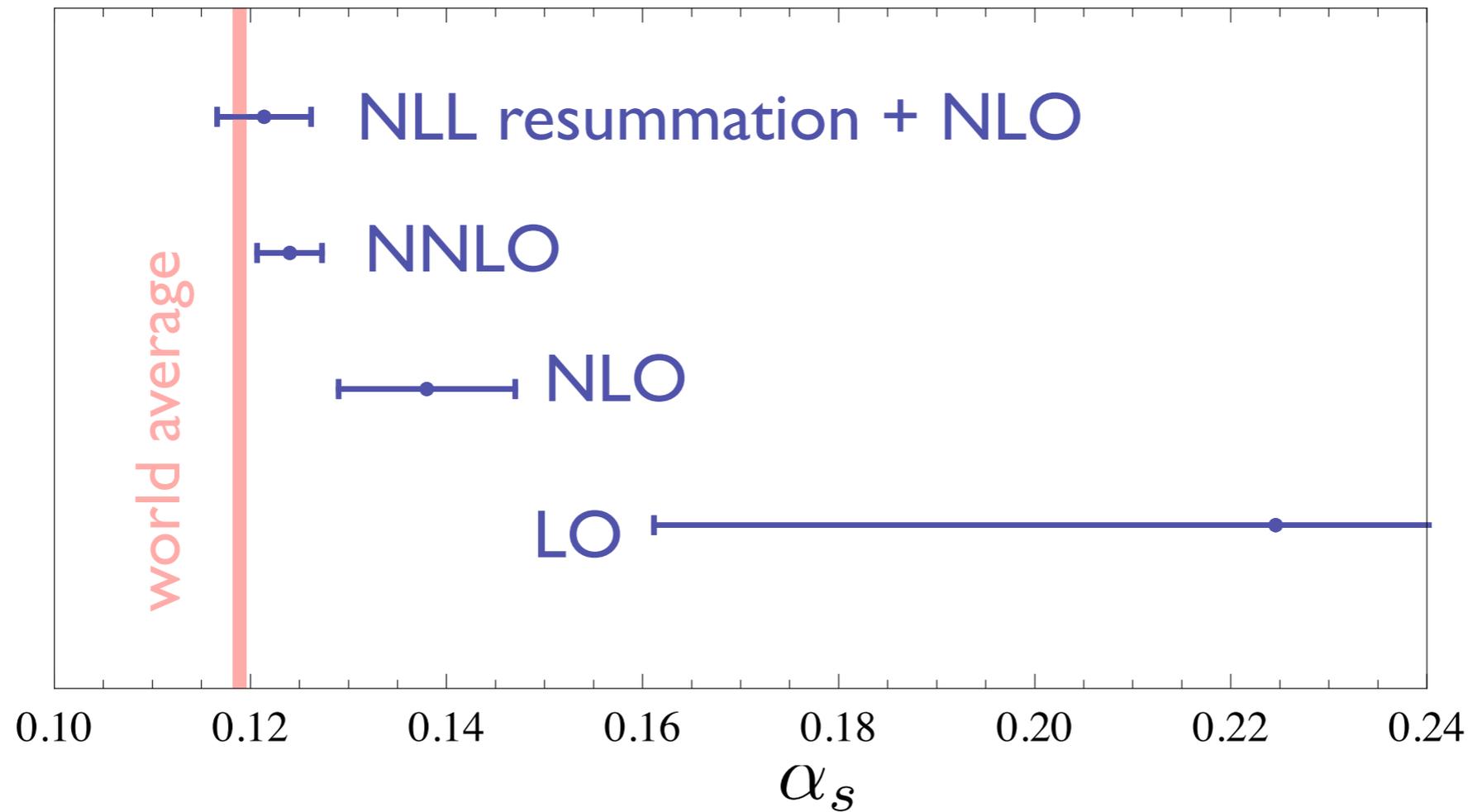




Measured thrust definition



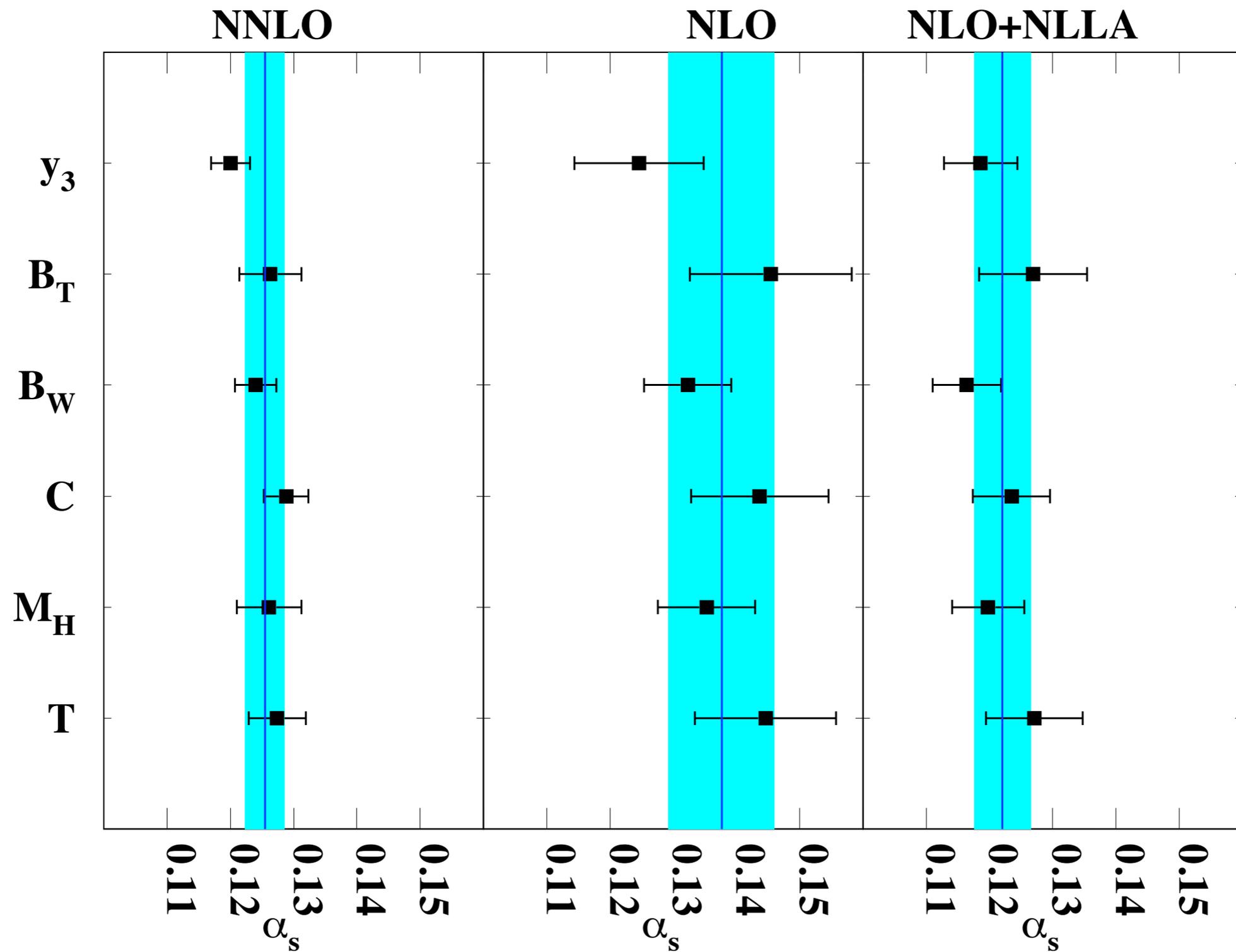
α_s from event shapes



Perturbative uncertainty dominates, even at NNLO:

$$\alpha_s(M_Z^2) = 0.1240 \pm 0.0008 (\text{stat}) \pm 0.0010 (\text{exp}) \pm 0.0011 (\text{had}) \pm 0.0029 (\text{theo}).$$

α_s from event shapes



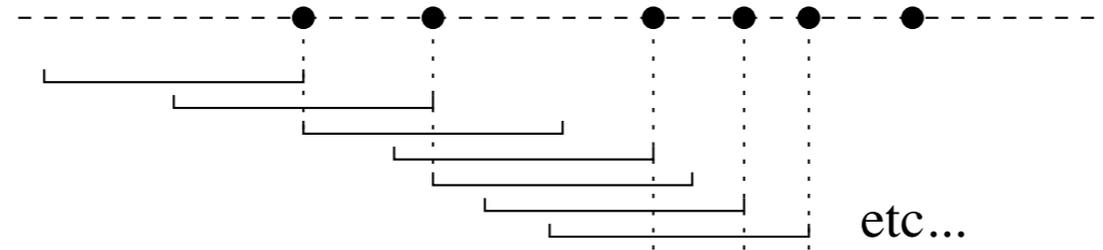


Figure 8: Representation of points on a line and the places where a sliding segment has a change in its set of enclosed points.

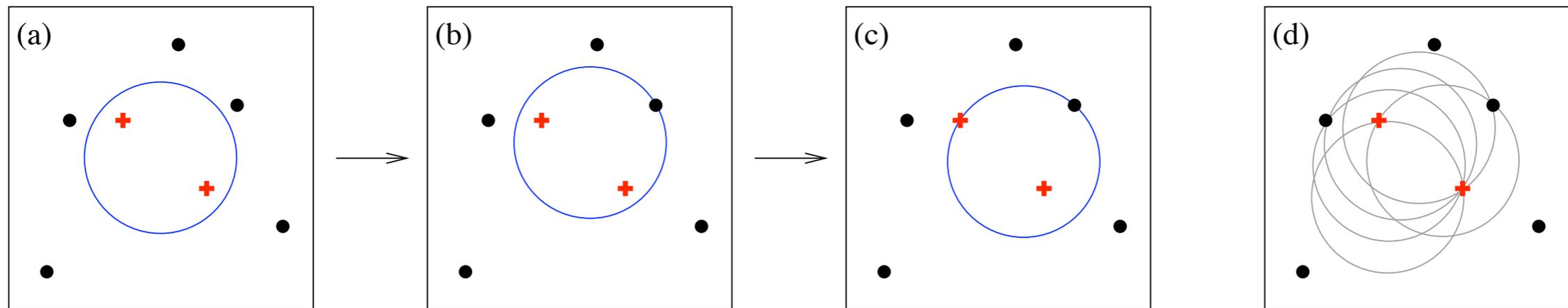


Figure 9: (a) Some initial circular enclosure; (b) moving the circle in a random direction until some enclosed or external point touches the edge of the circle; (c) pivoting the circle around the edge point until a second point touches the edge; (d) all circles defined by pairs of edge points leading to the same circular enclosure.

Split-merge procedure

source: G. Salam 0906.1833

1. Take the protojet with the largest p_t (the ‘hardest’ protojet), label it a .
2. Find the next hardest protojet that shares particles with the a (i.e. overlaps), label it b . If no such protojet exists, then remove a from the list of protojets and add it to the list of final jets.
3. Determine the total p_t of the particles shared between the two protojets, $p_{t,\text{shared}}$.
 - If $p_{t,\text{shared}}/p_{t,b} > f$, where f is a free parameter known as the overlap threshold, replace protojets a and b with a single merged protojet.
 - Otherwise “split” the protojets, for example assigning the shared particles just to the protojet whose axis is closer (in angle).
4. Then repeat from step 1 as long as there are protojets left.

Note: the protojets are initially all stable cones.

