

The Coordinate System for ILC LDC Detector Simulations

Suggestion for Standardisation

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The Coordinate System

Direction of the axes is clear

- z along the (mean) beam direction
- y in the vertical direction, pointing upward
- x horizontal, perpendicular to both y and z
- right-handed coordinate system

Orientation of axes is unclear

- z : Where are electrons, where are positrons?
- x : Where is beam delivery, where is extraction?
(in the case of a crossing angle)

The Need for Standardisation

All possibilities are equivalent,
but we should make a **consistent** choice

- tools should be usable without re-thinking
- data should be exchangeable without conversion

The earlier we agree, the better!

Hints Towards a Choice

Detector Simulations

- Brahms will soon use a crossing angle with $p_x > 0$
- Mokka has not made a choice yet

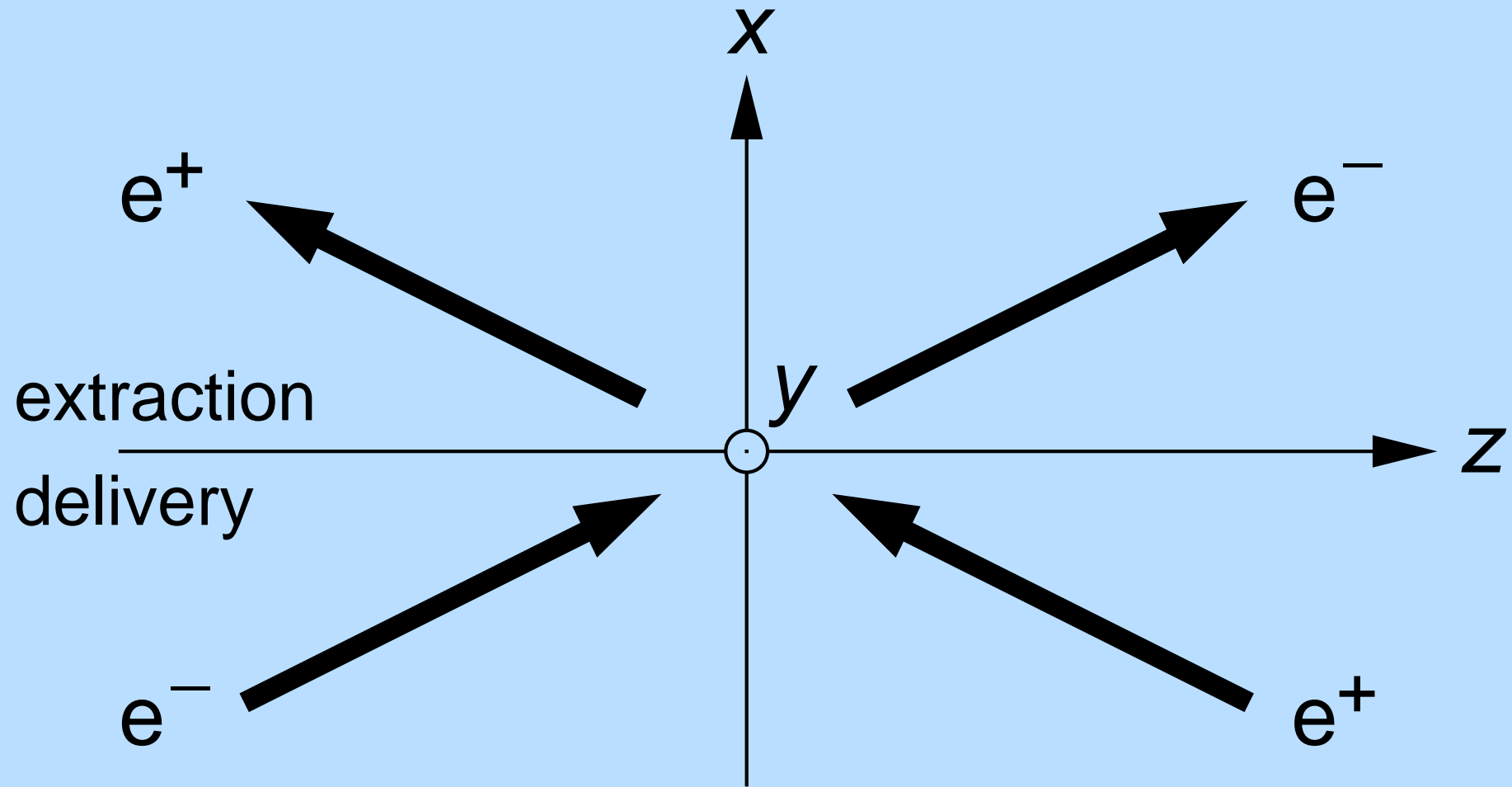
Particle Generators

- most generators can define the initial state explicitly
- Guinea Pig uses $p_z(e^-) > 0$, $p_z(e^+) < 0$

Machine development

- has not made a final choice yet either
- design might finally be mirrored (site-dependent)

Suggestion (Top View)



Any opinions, suggestions, additions, complaints?