

Experimental particle. physics

esipap...
European School of Instrumentation
in Particle & Astroparticle Physics

BI. analysis of
classic experiments

Let's read the papers

- Read the paper!
- Discuss the experimental techniques used to achieve the result:
 - ✓ What accelerator, is any? What detector setup?
 - ✓ How was the signal identified?
 - ✓ What were the major experimental challenges? How were they solved?
- Prepare a short presentation (3 slides max!) where the previous points are discussed
 - ✓ It can be a simple cut-and-paste of the most important plots and/or figures from the paper

Experimental Determination of the Disintegration Curve of Mesotrons

BRUNO ROSSI AND NORRIS NERESON

Cornell University, Ithaca, New York

(Received September 17, 1942)

The disintegration curve of mesotrons has been experimentally determined by investigating the delayed emission of disintegration electrons which takes place after the absorption of mesotrons by matter. Within the experimental errors, the disintegration curve is exponential and corresponds to a mean lifetime of 2.3 ± 0.2 microseconds.

Observation of Antiprotons*

OWEN CHAMBERLAIN, EMILIO SEGRÈ, CLYDE WIEGAND,
AND THOMAS YPSILANTIS

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(Received October 24, 1955)

Experimental Observation of a Heavy Particle J^\dagger

J. J. Aubert, U. Becker, P. J. Biggs, J. Burger, M. Chen, G. Everhart, P. Goldhagen,
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Discovery of a Narrow Resonance in $e^+ e^-$ Annihilation*

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J. Wiss, and J. E. Zipse

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(Received 13 November 1974)

Preliminary Result of Frascati (ADONE) on the Nature of a New 3.1 -GeV Particle Produced in e^+e^- Annihilation*

C. Bacci, R. Balbini Celio, M. Berna-Rodini, G. Caton, R. Del Fabbro, M. Grilli, E. Iarocci,
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F. Costantini, P. Lariccia, P. Parascandalo, E. Sassi, C. Spencer, L. Tortora,
U. Troya, and S. Vitale

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(Received 18 November 1974)

Observation of QCD jets

1982

OBSERVATION OF VERY LARGE TRANSVERSE MOMENTUM JETS AT THE CERN $\bar{p}p$ COLLIDER

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Received 25 August 1982

W boson discovery

1983

EXPERIMENTAL OBSERVATION OF ISOLATED LARGE TRANSVERSE ENERGY ELECTRONS WITH ASSOCIATED MISSING ENERGY AT $\sqrt{s} = 540$ GeV

UA1 Collaboration, CERN, Geneva, Switzerland

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Z boson discovery

1983

EVIDENCE FOR $Z^0 \rightarrow e^+e^-$ AT THE CERN $\bar{p}p$ COLLIDER

The UA2 Collaboration

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EXPERIMENTAL OBSERVATION OF LEPTON PAIRS OF INVARIANT MASS AROUND 95 GeV/c² AT THE CERN SPS COLLIDER

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