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Lucía Muñoz Franco

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A long history with hep and CERN

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DYNAMICAL BREAKING OF SUPERSYMMETRY*

Edward WITTEN

Joseph Henry Laboratories, Princeton University, Princeton, New Jersey 08544, USA

PHYSICS REPORTS (Review Section of Physics Letters) 62, No. 1 (1980) 1-86. NORTH-HOLLAND PUBLISHING COMPANY

General conditions for dynamical supersymmetry breaking at a low energy scale are described.

Supersymmetry has fascinated physicists for some time. It is an outstanding example of a symmetry that would usually be ignored, but which is plausibly broken. Of course, if nature really is supersymmetric, it must be spontaneously broken. It might very well occur indirectly, in as much as the breaking of supersymmetry would be relevant to the breaking of particle quantum numbers.

On the other hand, it is possible that supersymmetry would be relevant at energies like a few hundred GeV. At such energies, renormalizable, globally supersymmetric theories are not constructing realistic models of physics.

If supersymmetry breaking occurs at a low energy scale, one must ask why the energy scale is so low. This is a variant of the ordinary particle physics problem of natural energy scale of gravity mass. This is a variant of the ordinary particle physics problem of gravitation?

* Supported in part by NSF Grant

HIGHLIGHTS OF 25 YEARS OF PHYSICS AT CERN

L. VAN HOVE and M. JACOB

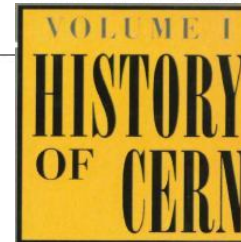
CERN, Geneva, Switzerland

Received 19 February 1980

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In 1979, CERN was host to the International Conference on High Energy Physics organized by the European Physical Society. On 30 June, a full day of the Conference was set aside for talks and visits marking the 25th anniversary of the Organization. In his address to the Conference, Léon Van Hove, Research Director-General, surveyed the highlights of research at CERN since the beginning of the Laboratory. The present review follows his talk while covering more extensively some of the topics discussed.



ARMIN HERMANN

JOHN KRIGE

ULRIKE MERSITS

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and with a contribution by

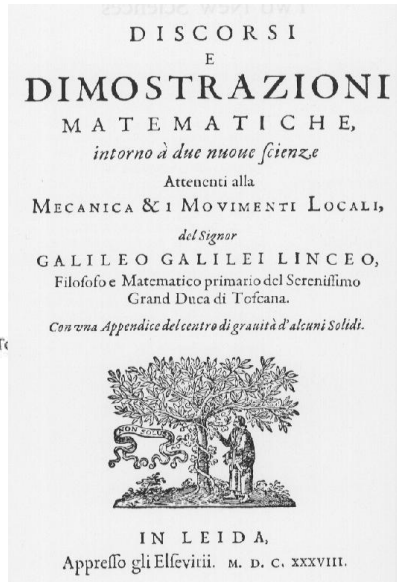
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Specifically in hep we are...

Collaborating with (IN)SPIRES

- Sharing abstracts, references and other meta data to improve search results
- Cooperation with author identification

Adapting to needs of LHC collaborations

- Two-stream submission process and tailored reviewing processes
- Publishing articles open access with Elsevier, rather than the experiments, covering the costs (so far ~20 articles published)

Our position on SCOAP³ – we are...

Open to experimentation

- SCOAP³ is a true alternative financial model
- A genuine attempt to try something new
- Very interested to see how it can work

Concerned about time it has taken

- Funding commitments after 5 years
- Economic crisis and other changes

Aware of difficulties in dealing with consortia

- In our experience, problems arise when someone feels they are paying more than others

Considerations from our side

Journals are long-lived creatures

- Publishers are committed for the long term
- Journals relevant to SCOAP3 have survived the last 5 years in good shape.
- Benefits of SCOAP3 must be worth the risks

If business models fail, journals shouldn't



Sustainable

Reversible

Sustainable – what does it mean?

**Journals need to be financed in the real world,
with real money**

- Tender without full funding implies CERN underwrites any agreement until steady-state is reached

Journals are more than a collection of articles

- They have organisation and infrastructure (fixed costs). Any future funding models needs to protect that and support a journal over time

Reversible – what does it mean?

- CERN may be unable to underwrite funds beyond one-year intervals
- As responsible publishers, we must put in place restoring mechanisms
- We ask for your commitment to the future of the journals

Our recommendation?

- Remember that SCOAP3 and the journals will need your commitment for the long term
- You need to be confident that you can make this work
- And that the benefits outweigh the costs of making it work

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