

EPS 9: TRENDS IN PHYSICS

9th General Conference of the EUROPEAN PHYSICAL SOCIETY
Palazzo dei Congressi, Florence, Italy, 14-17 September 1992

In conjunction with:

- Celebration of the 25th Anniversary of EPS
- General Meeting of EPS Ordinary Members
- European Quantum Electronics Conference (10-13 September)
- 2nd EPS Liquid Matter Conference (18-22 September)



Contributed Papers and Posters

Contributions are invited on topics related to those covered by the parallel symposia. They will mainly be presented as posters, but a few will be selected before the conference by the symposia organizers for oral presentation (authors must indicate if they do not wish to be considered for an oral presentation). Each registered author is entitled to make only one contribution.

One hour each day will be devoted to the poster sessions.

Camera-ready abstracts by **2 April 1992** to: Prof. A.M. Cartacci, Physics Department, Florence Univ., Largo E. Fermi, 2, I-50125 Florence.

Registration

Early registration by **15 May 1993** advised. Address: OIC-MP, Via La Marmora, 24, I-50121 Florence.

The registration fees (including abstracts booklet and proceedings) in Italian lire are: - IOM's: 260000.- / Students: 50000.- / Non-Members: 380000.- / Members of National or Collaborating Societies: 300000.-.

For student grants (which are limited in number), contact:

Prof. E. Bogani, Physics Dept., Florence Univ., Largo E. Fermi, 2, I-50125 Florence.

R.A. Ricci (on the left), EPS 9 Chairman, and E. Brézin, Programme Committee Chairman.



Plenary lectures:

W. Buckel, Karlsruhe
F.T. Arecchi, Florence
G. Charpak, Geneva
C. Cohen-Tannoudji, Paris
P.G. de Gennes, Paris
J. Ellis, Geneva
Y. Imry, Rehovot
W. Krätschmer, Heidelberg
S.B. Luitjens, Eindhoven
J. Mason, London
A. Pais, New York
G. Parisi, Rome
M.J. Rees, Cambridge
H. Rohrer, Zurich
C. Rubbia, Geneva
P.J. Twin, Liverpool
D.J. Wallace, Edinburgh
P. Wyder, Grenoble

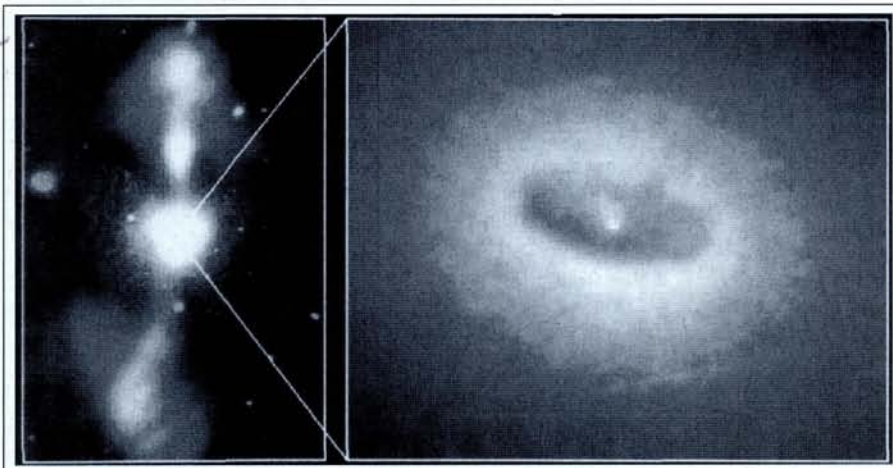
Parallel symposia (and organizers' names):

History of physics: F. Bevilacqua, Pavia
Local probes - STM: U. Dürig, Rüschiikon
Liquid-glass transition: T. Geszti, Budapest
Magnetic multilayers: P. Gruenberg, Jülich
Fluid surfaces: W. Helfrich, Berlin
Heavy ions: H.J. Specht, Heidelberg
Physics with synchrotron radiation: M. Altarelli, Grenoble
Quantum wells and superconductors: G. Bastard, Paris
Standard Model and beyond: C. Kounnas, Geneva
Optics and quantum mechanics: D. Lenstra, Amsterdam
Interplay between particle physics and astrophysics: E. Belotti, Milan
Low-dimensional systems and mesoscopic systems: P.C. Main, Nottingham
Statistical mechanics - rigorous results, 2D systems: M. Rasetti, Turin
Collisions of multiply charged ions with surface and gases: R. Morgenstern, Göttingen

On the responsibility of scientists to the public (*Powell Memorial*)
Space-time chaos and topological defects in optics
From detector physics to medical applications
Laser cooling and trapping of atoms
4000 years of polymer research
Known and unknown matter
Mesoscopic disordered systems
Fullerenes and fullerites: new forms of carbon
Developments in storage density of magnetic optical recording
The greenhouse effect and global warming
History of physics
Immunological networks
The emergence of structure of the universe
The dawn of nanometrage
Experimental particle physics (*title to be announced*)
Superdeformed nuclei
Physics with supercomputers
Physics in high magnetic fields

Inertial fusion: R. Bock, Darmstadt
Femtosecond spectroscopy: G. Geber, Freiburg
Exotic nuclei: P. Gregers-Hansen, Aarhus
Non-ideal plasmas: W.D. Kräft, Griefswald
Flux physics: P.H. Kes, Leiden
Quantum fluids: S. Stringari, Trento
Optics and interferometry with atoms: A. Aspect, Orsay
Accelerators, storage rings: M. Promé, Saclay
Soft matters - polymers, liquid crystals, aerogels: P. Pieranski, Orsay
Physics in a changing world: E.W.A. Lingeman, Amsterdam

Dusty Disk Fuels a Possible Black Hole



Astronomers using the Hubble Space Telescope's Wide Field/Planetary Camera reported on 19 November that they had

observed what appears to be a black hole at the centre of an active galaxy (NGC 4261 in the Virgo Cluster). The 400 light-years in

diameter dark disk shown in the Hubble image on the right is the cold, core region which extends to within a few hundred million miles of the suspected black hole. Matter fed into the black hole by the disk is heated owing to compression by gravity and hot gas is squirted out as jets. The jets show up in the composite optical/radio image on the left taken by the Observatory del Roque de los Muchachos, Canary Islands. The central bright region of the composite image indicates that the 30 000 light-years in diameter galaxy is unremarkable.

There remain some mysteries of course. For instance, the disk is believed to be composed of dust, but where does the dust come from? One possibility is that it is a remnant of a spiral galaxy which was swallowed up by NGC 4261. Spectroscopy of the disk is planned after the Shuttle repair mission in late-1993, as in the words of H. Ford, a co-investigator on the mainly US team, "this is the first case where we can follow the disk's gas in an orderly way down to the immediate environment of a black hole".