

# ENERGY AND PHYSICS 9-12 SEPTEMBER 1975

Bulletin No. 3

*Scientific Program*

## Tuesday, 9th

PLENARY SESSION	9.00	OPENING SESSION	
	9.30	P.L. Kapitza (Academy, Moscow)	<i>Physics and Energy</i>
	10.40	W. Haefele (IIASA, Laxenburg)	<i>Energy Strategies</i>
	11.30	A. Weinberg (Inst. f. Energy Analysis, Oak Ridge)	<i>The Maturity of Nuclear Energy</i>
	12.30	LUNCH	

PARALLEL SESSIONS	ELEMENTARY PARTICLE PHYSICS	ENERGY IN ASTROPHYSICS <i>The early universe</i>	MANY BODY PROBLEMS <i>Irreversibility</i>	TRANSPORT AND STORAGE OF ENERGY	USE OF SOLAR ENERGY <i>Conversion via the heat stage</i>
15.00	G. Capon (CNEN, Frascati) : <i>The newly discovered particles</i>	G. Setti (Inst. « A. Righi », Bologna) : <i>Observational cosmology : evidence for the big bang</i>	H. Haken (Univ., Stuttgart) : <i>Irreversibility and fluctuations in laser physics</i>	A. Rocher (C.G.E. Marcoussis) : <i>Transport and storage of energy : a review</i>	J.K. Page (Univ., Sheffield) : <i>Solar energy and habitat</i>
15.45	L.B. Okun** (JNR, Dubna) : <i>Probing hadrons with leptons</i>	H. Reeves (CEN, Saclay) : <i>Element production in the early universe</i>	R. Balescu (Univ. Libre, Brussels) : <i>New results of the belgian school on irreversibility</i>	W.T. Eeles (Electr. Council Res. Centre, Capenhurst) : <i>Electric batteries for electricity storage</i>	V.A. Baum (TSSR Academy, Ashkabad) : <i>Solar energy for house climatization</i>
16.30	V.P. Sarantzev (JINR, Dubna) : <i>Still higher energies : how ?</i>	I.D. Novikov, Ya.B. Zeldovich (Inst. of Appl. Math., Moscow) A.A. Starobinsky (Landau Inst., Moscow) : <i>Particle creation</i>		D.J. Schröder (Philips, Aachen) : <i>Thermal energy storage</i>	
17.15		W. Kopczynski (Univ., Warsaw) : <i>The role of spin in the early universe</i>		F. Williams (Natl. Coal Board, Cheltenham) : <i>Coal conversion processes</i>	
<b>DISCUSSION ORGANIZERS***</b>	J. Meyer UNICAMP Caixa Postal 1170 13100 Campinas Brazil	M. Rees Univ. of Cambridge Madingley Road Cambridge CB3 0HA U.K.	A. Corciovei Inst. of Atomic Physics P.O. Box 5206 Bucharest Romania	L.A.A. Thomas General Electric Hirst Research Centre East Lane Wembley HA9 7PP Middlesex, U.K.	V. Silvestrini Univ. di Napoli Piazzale Tecchio Naples Italy
PLENARY SESSION	18.30	<b>POWELL MEMORIAL LECTURE :</b>		V.F. Weisskopf, (MIT, Cambridge)	

\* Title not confirmed.

\*\* Speaker not confirmed.

\*\*\* Written contributions to the discussions must be submitted to the discussion organizers (see point 8 of Bulletin No. 2).

## Wednesday, 10th

PLENARY SESSION	8.30	A. Trautman (Univ., Warsaw)	<i>Energy, Gravitation and Cosmology</i>
	9.20	P. Aigrain (Thomson-CSF, Paris)	<i>Use of Solar Energy</i>
	10.40	L. Van Hove (CERN, Geneva)	<i>Energy and Matter in Particle Physics</i>
	11.30	A.M. Prokhorov (Academy, Moscow)	<i>Fusion and Lasers</i>
	12.30	LUNCH	

PARALLEL SESSIONS	ELEMENTARY PARTICLE PHYSICS	MANY BODY PROBLEMS <i>Phase transitions and renormalisation group techniques.</i>	MATERIALS FOR ENERGY PRODUCTION AND DISTRIBUTION	NUCLEAR PHYSICS	USE OF SOLAR ENERGY <i>Photovoltaic devices</i>
15.00	R. Omnes (Univ., Orsay) : <i>Elementary particles and cosmology</i>	M.E. Fisher** (Cornell Univ., Ithaca) : <i>Present status in the theory of phase transitions.</i>	G. Bogner (Siemens, Erlangen) : <i>Problems of conductors and dielectrics for cryogenic cables</i>	Z. Szymanski (Inst. f. Nucl. Res., Warsaw) : <i>Nuclear energy surface and the quest for new elements</i>	F.P. Califano (Univ., Naples) : <i>Photovoltaic effect</i>
15.45	C. Rubbia (CERN, Geneva) : <i>Still higher energies : why ?</i>	C. Jona-Lasinio (Univ., Rome) : <i>Critical behaviour in terms of probabilistic and ergodic concepts.</i>	A. Winsel (Varta, Kelkheim) : <i>Electro-chemical energy conversion : material aspects.</i>		V.S. Vavilov** Lebedev Inst., Moscow) :
16.30	H. Hecht (Observ. Meudon) : <i>Neutrinos in the universe</i>	E. Brezin (CEN, Saclay) : <i>Methods of field theory applied to critical phenomena</i>	B. Edmondson (CEGB, Berkeley) : <i>Material problems in nuclear reactors</i>		
17.15		C. de Dominicis (CEN, Saclay) : <i>Renormalization group and dynamical behaviour in the critical region</i>			
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17.30	<b>GENERAL ASSEMBLY OF EPS ORDINARY MEMBERS</b>				

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# Thursday, 11th

PLENARY SESSION	8.30	I. Ursu (Inst. f. Atomic Phys., Bucharest)	<i>Energy Today : New Goals and Challenges for Physics</i>
	9.20	M. Archer (Int. Solar Energy Soc., London)	<i>Photochemical Aspects of Solar Energy Conversion</i>
	10.40	HEWLETT-PACKARD - EUROPHYSICS - PRIZE AWARD	
	11.10	H.T. Witt (TU, Berlin-West)	<i>Energy Processes in Biology</i>
	12.00	C.M. Braams (FOM-Inst. v. Plasmafysica, Jutphaas)	<i>State of Thermonuclear Research</i>
	13.00	LUNCH	

PARALLEL SESSIONS	ENERGY IN ASTROPHYSICS	NUCLEAR PHYSICS	MATERIALS FOR ENERGY PRODUCTION AND DISTRIBUTION	USE OF SOLAR ENERGY	ENERGY RESEARCH STRATEGIES
	<b>Gravitational energy sources</b>			<b>Biological and biochemical processes</b>	
15.00	K.A. Pounds (Univ., Leicester) : <i>Observation of compact X-ray sources</i>	W. Greiner (Univ. Frankfurt) : <i>Fundamental problems in heavy ion physics</i>	D. Wynn Jones (Electr. Council Res. Centre, Capenhurst), coordinator : <i>Panel discussion on solid electrolytes</i>	G. Forti (Univ., Milano) : <i>Photosynthesis</i>	D. Schumacher (Systemplan, Heidelberg), coordinator : <i>Panel discussion on the policy aspects of energy research strategies.</i> Invited participants : G. Drilhon (OECD, Paris) : <i>International aspects of energy research,</i> Yu. Novozhilov (UNESCO, Paris) : <i>Unesco's energy program</i> A. Weinberg (Inst. f. Energy Analysis, Oak Ridge) : <i>Energy research in the year 2000*</i> , J.J. Went (Arnhem) : <i>Thermal breeder development.</i>
15.45	E. Schatzman (Observ., Meudon) : <i>Late stages of stellar evolution and supernovae</i>			G. Stein (Hebrew Univ. Jerusalem) : <i>Photochemical utilisation of solar energy</i>	
16.30	J.M. Stewart (Max-Planck Inst., Munich) : <i>Black holes</i>			AA. Schlyk** (BSSR Academy, Minsk)	
17.15	C.J. Pethick (Univ. Illinois, Urbana) : <i>Neutron stars</i>				
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PUBLIC SESSION	20.45	<b>PHYSICS AND SOCIETY :</b> <i>Open discussion on the social aspects of scientific research.</i>			

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## Friday, 12th

PLENARY SESSION	8.30	G. Nicolis (Univ. Libre, Brussels)	<i>Energy, Dissipation and Structure</i>
	9.20	C. Marchetti (IIASA, Laxenbourg)	<i>Transport and Storage of Energy</i>
	10.40	N.N. Bogoliubov (JINR, Dubna)	<i>Statistical mechanics and energy*</i>
	11.30	S. Eklund (IAEA, Vienna)	<i>Nuclear energy sources*</i>
	12.30	LUNCH	

PARALLEL SESSIONS	ELEMENTARY PARTICLES PHYSICS	ENERGY IN ASTROPHYSICS  Cosmic Plasmas	PHYSICS EDUCATION	ENERGY RESEARCH STRATEGIES	GEOPHYSICS
15.00	D.H. Wilkinson (Univ., Oxford) : <i>Elementary particles and nuclei</i>	G.K. Miley (Observ., Leiden) : <i>Extragalactic radio sources</i>		J.J. Went (Arnhem), coordinator : <i>Panel discussion on the economic aspects of energy research strategies.</i> Invited participants : A. Colomb (EOS, Lausanne) : <i>Economic aspects of energy production,</i> K. Meyer-Abich (Univ., Essen) : <i>Ecological aspects of energy research*,</i> N. Kurti (Univ., Oxford) : <i>Technologies of efficient energy utilization</i> R. Schulten (KFA, Jülich) : <i>Assessment of energy sources and sinks.</i>	H. Stiller E. Hurtig H. Vollstaedt R.P. Oesberg R. Waesch (Univ., Postdam) : <i>Investigations on earthquake mechanisms</i>
15.45	J. Bell (CERN, Geneva) : <i>Perspectives in unified field theories</i>	L.M. Ozernoy (Lebedev Inst., Moscow) : <i>Energy sources in active galactic nuclei</i>			
16.30		R. Wielebinsky (Max-Planck-Inst., Bonn) : <i>Pulsars</i>	K.W. Keohane (Univ., London) : <i>Trends in science education</i>		
17.15		N.J. Holloway (Univ. Sussex, Brighton) : <i>Pulsar theories</i>			
<b>DISCUSSION ORGANIZERS***</b>	J. Meyer UNICAMP Coixa Postal 1170 13100 Campinas Brazil	M. Rees Univ. of Cambridge Madingley Road Cambridge CB3 0HA U.K.	A. Janner Kathol. Univ. Toernooiveld Nijmegen The Netherlands	J.J. Went EPS Secretariat P.O. Box 39 CH-1213 Pt-Lancy 2 Switzerland	B. Giovannini Section de Physique 32, bvd d'Yvoy CH-1211 Geneva 4

PLENARY SESSION	18.00	<b>CLOSURE SESSION :</b> H.B.G. Casimir (EPS President, Eindhoven) : <i>The Concept of Energy</i>
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