

# 1<sup>st</sup> Workshop on POwer Converters for Particle Accelerators (POCPA)

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# Where do we meet ?

## Particle Accelerator Conference 07

22nd PAC Conference • June 25 - 29, 2007 • USA



*Albuquerque, New Mexico. ¡Bienvenidos!*

January 29 - February 2, 2007

**APAC 2007**

### Asian Particle Accelerator Conference

Raja Ramanna Centre for Advanced Technology  
Central Complex, Indore, INDIA



**EPAC<sup>08</sup> Genoa, Italy**  
magazzini del cotone  
11<sup>th</sup> European Particle Accelerator Conference  
June 23 - 27, 2008

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**Local Organizing Committee**

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\* Scientific Programme Committee Member

[www.epac08.org](http://www.epac08.org) [www.epac08.org](http://www.epac08.org) [www.epac08.org](http://www.epac08.org) [www.epac08.org](http://www.epac08.org)

**EPAC 2008 June 23-27 , Genoa, Italy**

**PAC 2009 May 04-08 , Vancouver, BC, Canada**

**APAC 2010 May 24-29 , Kyoto, Japan**

**APT (Accelerator Power Technology): session in PAC and EPAC conferences but no more active.**

# Where do we meet ?

EPE , PCIM, IEEE conference (PESC, IAS, APEC,...),... but light participation from physics domain.

Topic in EPE conference:

## Topic 21: Energy conversion and conditioning technologies in physics research and related applications

21a. Power converters for particle accelerators

21b. Application of power electronics to pulsed power (f.e. nuclear fusion research, microwaves, etc...)

21c. Other related applications

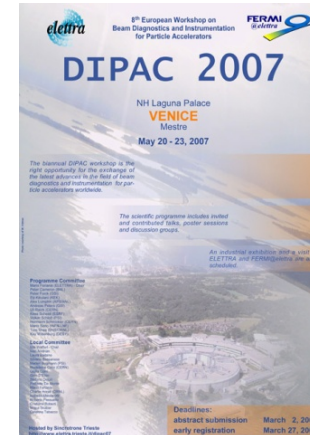


EPE 2009

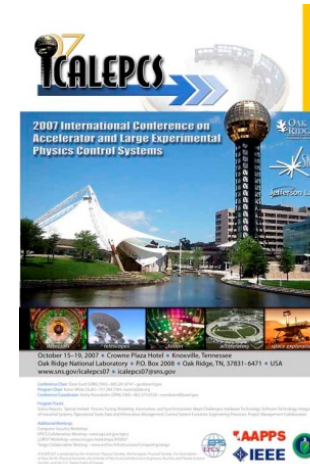
13th International European Power Electronics

# Particle accelerators: specialized workshops

**DIPAC** (Workshop on Beam Diagnostics and Instrumentation for Particle Accelerators)  
Every two years. Last one (8th in 2007)



**ICALEPS**, International Conference on Accelerator and Large Experimental Control Systems  
Every two years. Last one (11th in 2007)



**ICAP** (International Computational Accelerator Physics Conference)  
9th in 2006 (every 3 years)

**FEL** (Free Electron Laser)

**RF workshops**: too many  
**CW and High Average Power RF**,



## The past

**EP<sup>2</sup> Forum,**  
**"Electrical Power technology in European**  
**Physics research",**

- **CERN, Geneva,, March 2-3, 1995**
- **ESRF, Grenoble, October 21-22, 1998.**

**CAS (CERN Accelerator School)**  
**Power converters for particle accelerators**

- **Montreux, 26 - 30 Mar 1990**
- **Warrington, 12-18 May 2004**

**last CAS conclusion: not to wait 5-10 years !**

## From Warrington ...

Visit at Elettra (9th March 2006): discussion on power converter workshop

- Forum for the exchange of the experience in the field of power converters at particle accelerator facilities.
- To have opportunity for everybody to discuss with his/her "equivalents" from other laboratories about his/her activities.
- To share experiences, troubles, solution, etc. In other words, to try to create a "community" where anybody can have the opportunity to learn something and find new ideas, advice and help if needed.
- Two-days meeting and the first part is devoted to specific topic(s) and discussion.

**Roberto proposed kindly to organize the workshop at Elettra**

**Grazie mille  
Grazie per l'ospitalità**



## Scientific Committee

Scientific Committee (SC) defines the specific topic(s) of the workshop and selected the presentations.

Bordry Frédéric	CERN
Bouteille Jean-François	ESRF
Eckoldt Hans-Joerg	DESY
Griffiths Stephen	SRS
Künzi René	PSI
Lambiase Bob	BNL
Visintini Roberto	Elettra
Wang Ju	ANL

**The workshop will be arranged on two days of activities.  
The first part is devoted to specific topic(s) and discussion.**

For this 1st Workshop, a proposal was: **MTBF and MTTR.**

- What are the measured values in the different machines?
- What was done to improve?
- What will be done in the futures?
- How to design new power converters to reach high reliability?

The second part is dedicated to a short visit of the Hosting Lab, presentations of activities from the participating Labs and discussions.

## Some choices ...

### **1 - Workshop Announcement**

This event will not be publicized (e.g. no posters, no ads, etc.) but - at least for the first time - the participants will be invited directly to join the workshop.

The number of participants should be limited to 25 - 40 people (2 -3 per Laboratory, more from the Hosting one).

Indico site managed by CERN (thanks to Marie Colin).

### **2 - Who to invite?**

For the first workshop we will invite people from the "Accelerators World" only (nobody from the "Fusion World" or Academia).

In order to have the possibility of "free speech" among participants no companies will be invited nor any sponsorship from commercial entities is searched.

### **3. No fee.**

Host lab will offer the breaks and the workshop dinner.



# 1<sup>st</sup> POCPA Workshop program

Hour	Monday 19th May 2008	Tuesday 20th May 2008	Wednesday 21st May 2008
9:00	Arrival at Elettra	Session 2: MTBF and MTTR	Session 4: Presentation from Labs
9:30			
10:00			
10:30			Conclusions
11:00			
11:30			
12:00			
12:30	Lunch	Lunch	Lunch
13:00			
13:30			
14:00	Opening address	Session 3: Presentation from Labs	Departure to Airport
14:30			
15:00			
15:30	Session 1: MTBF and MTTR		
16:00			
16:30			
17:00			
17:30			
18:00	Round table on the future of POCPA workshops		
18:30			
19:00		Transfer to Hotels and Restaurant	
19:30	Bus to Trieste		
20:00	Workshop Dinner	Dinner in Trieste	
20:30			
21:00			
21:30			
22:00			
22:30			

# Some initial questions for tomorrow

- **POCPA workshop: is it a good idea ? Do we have to continue?**
- **If yes: frequency ? Every two or three years ?**
- **Do we have to restrict to Particle Accelerators ? Do you think that we have to open to other domains of Physics: fusion, ...**
- **Do we have to enlarge the topics: Power converter, power quality, general powering,...**
- **Open registration or by invitation**
- **Do we have to open to commercial firms ?**
- **Duration of the workshop : 2 or 3 days or more**
- **Is it a good idea to have a central theme (as reliability)**
- **..... next host lab ????**