

11th meeting of the WG Radio Monte CarLow

H.Czyz/G. Venanzoni



Frascati 16 April 2012

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14:30->15:00 **Introduction H. Czyz/G. Venanzoni**

15:00->16:30 **Radiative Corrections and MC generators**

15:00 Current status of the luminosity measurement with
CMD-3 detector at VEPP-2000 e+e- collider (30') Gennady
V. Fedotovitch (*BINP*)

15:30 Result on ISR at BES-III (20') Achim Denig (*Karlsruhe / Mainz*)

15:50 Complete one loop corrections to e+e- -> mu+mu- gamma
in PHOKHARA generator (20') Michal GUNIA

16:30 Coffee Break (15')

17:00->18:30 **Hadronic VP, g-2 and Delta alpha**

17:00 An improved evaluation of the running \sin^2
Theta_eff and some applications (20') Fred Jegerlehner (*DESY*
Zeuthen)

17:20 VP: status and discussion (20') Thomas Teubner (*University of Liverpool*)

17:40 Results and issues on
amu^HLO (20') Simon Eidelman (*Budker Institute of Nuclear Physics*),
Thomas Teubner (*University of Liverpool*)

18:00 Discussion on amu^HLO (20')

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09:00->11:00 **Gamma Gamma physics, FSR and Transition Form Factors**

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|-------|--|---|
| 09:00 | Results on gg physics with KLOE (20') | Federico Nguyen (<i>Universita' degli Studi Roma TRE and Sezione INFN Roma TRE</i>) |
| 09:20 | Measurement of gg to pi0 with KLOE-2 (20') | Danilo Babusci (<i>LNF</i>) |
| 09:40 | gamma-gamma physics (single tag measurements) at BES-III (20') | Achim Denig (<i>Karlsruhe / Mainz</i>) |
| 10:00 | Impact of the "untagged" invariant on the single-tag e+e- -> e+e-P cross-section (20') | Sergiy IVASHYN (<i>KIPT Kharkov</i>), Henryk CZYZ (<i>University of Silesia</i>) |
| 10:20 | The V P gamma* form factor parametrizations (20') | Sergiy IVASHYN |
| 10:40 | pi0/eta formfactors (20') | Andrzej Kupsc (<i>Uppsala University</i>) |
| 11:00 | Coffee Break (30') | |

11:30->12:10 **Tau**

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|-------|--|--|
| 11:30 | TAUOLA, version 2011: update of two and three pseudoscalar modes in RChT (20') | Olga Shekhovstova (<i>LNF</i>) |
| 11:50 | Theoretical basis of the new hadronic form factors in TAUOLA and discussion on the possible errors (20') | Pablo Roig Garces (<i>IFAE UAB, Barcelona</i>) |
| 12:10 | Discussion on FP7 (20') | Antonio Passeri (<i>ROMA3</i>) |

At 8.00 pm we will have the
dinner at Ristorante of “Villa
Mercede”

Partly supported by MesonNet

Thanks Andrzej!!!

Usual propaganda:

The paper "Quest for precision in hadronic cross sections at low energy: Monte Carlo tools vs. experimental data" has been published on the **Eur. Phys. J. C. Volume 66, Issue 3 (2010), Page 585**

Remember to quote the paper.

The European Physical Journal

volume 66 · numbers 3–4 · april · 2010

EPJ C

Recognized by European Physical Society

Particles and Fields

0970707-010

Measurements of R , the ratio of cross sections of hadronic to muonic final states in e^+e^- annihilation, in the energy range just above the open charm threshold.
From S. Actis et al.: Quest for precision in hadronic cross sections at low energy: Monte Carlo tools vs. experimental data

Società Italiana di Fisica

Springer

Please acknowledge the RMCWG activity!

A possible way in the acknowledgements:

“This work is a part of the activity of the “Working Group on Radiative Corrections and Monte Carlo Generators for Low Energies” [<http://www.Inf.infn.it/wg/sighad/>].”

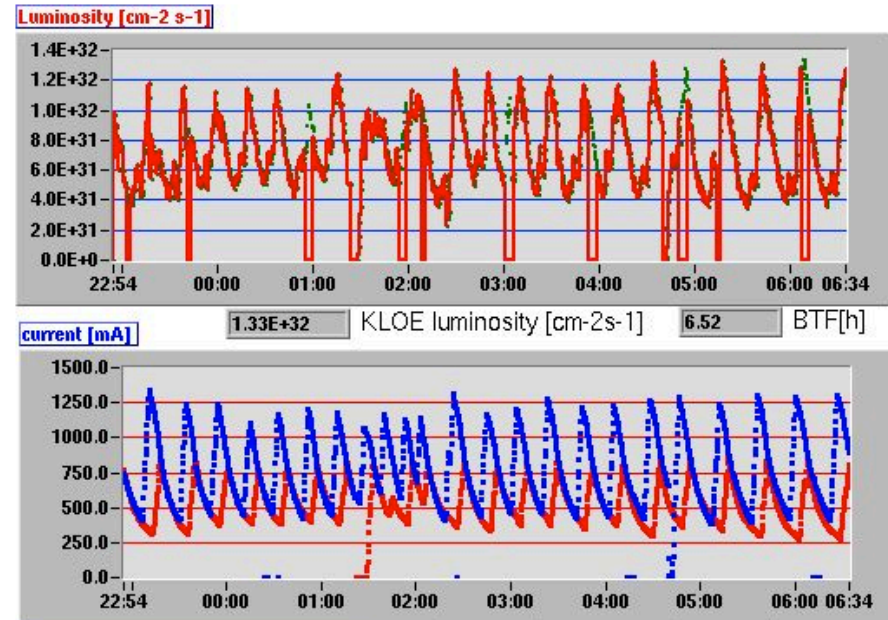
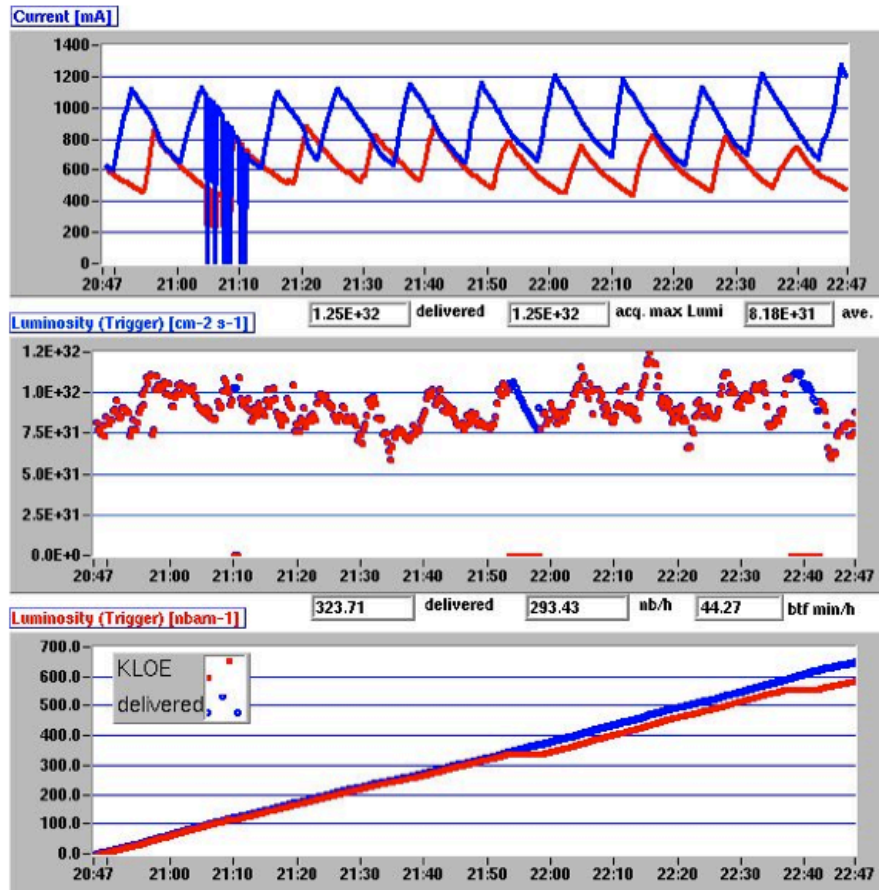
This has been already done in few papers.

Can we have a database of the papers done within the WG activities? Please send me the reference of your paper(s)

e⁺e⁻ current activities

- First of all congratulations to our Russian colleagues for the very promising results from VEPP-2000!
- Dafne luminosity and running time is slowly improving reaching the performances of previous run ($L_{\max} \sim 1.3 \times 10^{32}$). the detector is ready and all of us expect to start smooth data taking soon!
- BESIII is proceeding very well with plenty of new data. Soon the $\gamma\gamma$ and ISR programs will become an important part of its activities. See Achim presentations
- Still KLOE, BaBar and Belle can give important results on hadronic cross sections, $\gamma\gamma$, and flavour physics.

Dafne best day



March 29th 2012

$$L_{peak} = 1.3 \cdot 10^{32} \text{ cm}^{-2} \text{ s}^{-1}$$

$$L_{f1 \text{ hour}} = 0.324 \text{ pb}^{-1}$$

Some issues

- Is the 3 sigma discrepancy on $g-2$ btw SM and Exp. real? Are data and theory under control? Are there some new (crazy) ideas? (As WG) can we contribute on that? Simon/Thomas will chair the discussion at the end of today meeting.
- Set of precise data (hadronic cross section or $\gamma\gamma$) not always in good agreement (see next slides).
- Exclusive vs inclusive data (between 1 and 2.5 GeV)

These discrepancies can become a limiting factor for a real progress on a_μ^{SM}

In both cases experimental and theoretical activities are essential!

Still a lot of work for our WG!

How to improve the critical mass:
can we access to European funds
(especially for positions)?

We will discuss on Tuesday morning

When and where the next meeting?

Usually in September-October as satellite of a conference...

This time...	Tau 2012
	Nagoya, Japan, 17-21
	September, 2012

Would be feasible?

How many of us will go there?

Other possibilities?

...A possibility...

- In Sept/October (or November) in Messina (south Italy)...



Have a nice meeting!