



# Introduction

Andrzej Kupsc Uppsala University



STRONG 2020 Virtual Workshop on "Spacelike and Timelike determination of the Hadronic Leading Order contribution to the Muon  $g-2$ "

Nov 24 – 26, 2021  
Europe/Rome timezone




## Scientific Program

- Theory for timelike processes
- Theory for spacelike processes
- Radiative Corrections for  $e^+e^-$  data
- R-measurements
- MUonE
- Strong2020  $e^+e^-$  database activity

This is the first workshop of STRONG2020 WP21: JRA3-PRECISION TESTS OF THE STANDARD MODEL". It will be devoted to reviewing the WG activity and in more general to discuss the status of HVP spacelike and timelike determinations. The format will be online from Wednesday November 24 to Friday 26, with zoom sessions, 3 hours (2:00-5:00pm CET) each day. As a deliverable of this workshop we expect a book of abstracts to be submitted to ArXiv.

[Participant List](#)  
[Program committee](#)  
[Proceedings](#)

 **Starts** Nov 24, 2021, 2:00 PM  
**Ends** Nov 26, 2021, 5:00 PM  
Europe/Rome



### Registration

Registration for this event is currently open.

 111


[Register now >](#)



UPPSALA  
UNIVERSITET

## Context of the meeting:

- STRONG2020
- PrecisionSM project:
  - Postponed workshop
  - Deliverable: data base



# Hadron Physics for Precision Tests of the Standard Model

1-3 June 2020  
Jagiellonian Center of Innovation Sp. z o.o. (LTD)  
Europe/Warsaw timezone

Overview


- Scientific Programme
- Registration
- Participant List
- Meeting fee and Payment
- Location and transportation
- Lodging, lunch etc
- Contact info
- Sponsors
- Meeting photos
- Transportation

Support


✉ [hans.calen@physics.uu.se](mailto:hans.calen@physics.uu.se)

(Postponed to spring 2021 due to COVID-19!): the new date will be announced later. We plan to have discussions related to the Precision project via video conferences.


Precision Workshop 1-3 June Krakow




**Starts** 1 Jun 2020, 09:00  
**Ends** 3 Jun 2020, 17:00  
Europe/Warsaw




Jagiellonian Center of Innovation Sp. z o.o. (LTD)  
Life Science Park  
Michała Bobrzyńskiego 14 St.  
30 – 348 Cracow



**Andrzej Kupsc**



There are no materials yet.



This workshop does not have any registration fee

**Organizing Committee:**

- Jacek Biernat
- Varvara Batozskaya
- Hans Calen
- Viktor Thorén
- Andrzej Kupsc



*The strong interaction at the frontier of knowledge:  
fundamental research and applications*

## SCIENTIFIC FRONTIERS



LOW ENERGY



HIGH ENERGY



INSTRUMENTATION



INFRASTRUCTURES

## LOW ENERGY FRONTIER

Precise determination of the muon anomalous magnetic moment  $(g-2)_\mu$ ; the CKM matrix element  $V_{ud}$  from beta decay, and the weak mixing angle from parity-violating electron scattering. Associated novel constraints (or discovery) of physics beyond the SM.

**JRA3-PrecisionSM**

<http://www.strong-2020.eu/>

**NA4-PREN**

Address the "proton-radius puzzle" via combined data-theory



## JRA3-PrecisionSM: Precision Tests of the Standard Model

 Joint Research

Precision experiments at low energy, often called the Intensity Frontier of the Standard Model, entail measuring parameters of SM with high precision thereby constraining the contributions of yet unknown non-standard interactions and particles. While collider searches are best suited to look for heavy new particles, low-energy tests are sensitive to the full range of new physics.

[Read More](#)



Experimental context of this proposal:

- precise determination of the muon anomalous magnetic moment
- extraction of the CKM matrix element  $V_{ud}$  from beta decay, and of the weak mixing angle from parity-violating electron scattering (PVES).

⇒ Builds on MesonNet FP7 and  
RadioMCLow communities ++

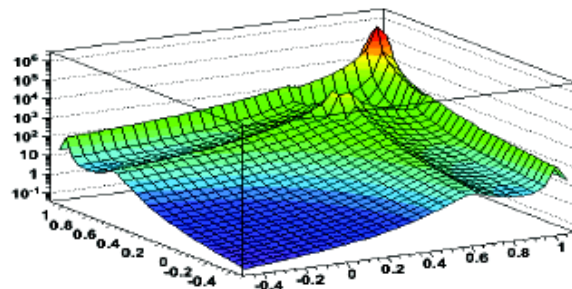
Lead beneficiary: JGU MAINZ - Germany

Spokespersons: Mikhail Gorshteyn, Andrzej Kupsc

Partners: INFN - Graziano Venanzoni, UU - Andrzej Kupsc

# Workshop on Meson Transition Form Factors

May 29-30, 2012 in Cracow, Poland



Information

References (115)

Citations (1)

Files

Plots

## MesonNet Workshop on Meson Transition Form Factors.

E. Czerwinski, S. Eidelman, C. Hanhart, B. Kubis, A. Kupsc, S. Leupold, P. Moskal, S. Schadmand.

Jul 2012

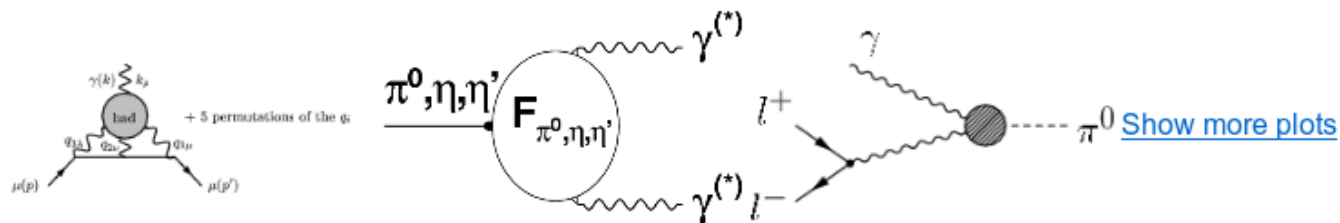
69 pp.

e-Print: [arXiv:1207.6556](https://arxiv.org/abs/1207.6556) [hep-ph] [PDF](#)

**Abstract:** The mini-proceedings of the Workshop on Meson Transition Form Factors held in Cracow from May 29th to 30th, 2012 introduce the meson transition form factor project with special emphasis on the interrelations between the various form factors (on-shell, single off-shell, double off-shell). Short summaries of the talks presented at the workshop follow.

**Note:** \* Temporary entry \*: 69 pages, 14 figures/ all talks can be found at [http://www2.fz-juelich.de/ikp//mesonnet/meetings/2012\\_ff\\_workshop.shtml](http://www2.fz-juelich.de/ikp//mesonnet/meetings/2012_ff_workshop.shtml)

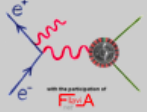
**Keyword(s):** INSPIRE: [conference](#) | [form factor: transition](#) | [meson](#)



Record created 2012-07-30, last modified 2012-08-03

# Radio MonteCarLow: Working Group on Radiative Corrections and MC Generators for Low Energies

- An informal room and a valuable platform to exchange ideas
- Meetings with theorists and experimentalists sitting together
- First meeting in Oct 2006. 20 meetings since then. More than 60 participants from more than 10 different countries. Last meeting on March 2019
- 2 WG coordinators (H. Czyz, G. Venanzoni)
- 7 Subgroups
- A first report in 2010: Eur.Phys.J.C 66 (2010) 585-686



Working Group on  
Rad. Corrections  
and MC Generators  
for Low Energies

[Home](#)

[Report](#)

[Working List](#)

**NEW** [Meetings](#)

[Monte Carlo Codes](#)

[Comparisons  
between Generators  
and num. Codes](#)

[Participants](#)

[Links](#)

## Working Group on Rad. Corrections and MC Generators for Low Energies

The aim of this Working Group is to bring together theorists and experimentalists in order to discuss the current status of radiative corrections and Monte Carlo generators at low energies. These radiative corrections and MC generators are crucial for the measurement of the R-ratio (both with ISR and energy scan), as well as the determination of luminosity.

The [twentieth meeting](#) took place at the Budker Institute of Nuclear Physics in Novosibirsk on Saturday March 2 2019 as satellite of the [PHIPSI19](#) Workshop.

The [nineteenth meeting](#) took place in Mainz in the [Institute for Nuclear Physics of Mainz](#) on Friday 30 June 2017 as satellite of the [PHIPSI17](#) Workshop.

The [eighteenth meeting](#) took place in Frascati, on May 19/20 2016.

The [seventeenth meeting](#) took place in Frascati, on April 20/21 2015.

The [sixteenth meeting](#) took place in Frascati, on November 18/19 2014.

The [fifteenth meeting](#) took place in Mainz, on April 11 2014.

The [fourteenth meeting](#) took place in Frascati, on September 13 2013, as a satellite meeting of the [PHIPSI13](#) conference in Rome.

Radio MonteCarlow WG page: [www.lnf.infn.it/wg/sighad](http://www.lnf.infn.it/wg/sighad)



# Goal and structure of the meeting

- Inform about status
- Encourage discussion/synergy between theory/experiment on time-like and space-like processes
- Plan further/dedicated meetings: <https://agenda.infn.it/category/1420/>  
(Mailing list: [strong2020-db@lists.infn.it](mailto:strong2020-db@lists.infn.it))

24-26 November

2:00pm CET (7:00am CST) -- 5pm CET

Wed: 1st session (R measurement)

2nd session (Strong2020)

Thu: 1st session (MC  $e^+e^-$ )

2nd session (MC  $e^+e^-$ )

Fri: 1st session (Spacelike)

2nd session (Spacelike)

- Please upload slides on indico before your presentation.
- Please try to stay within your allocated time (there are discussion slots at the end of each session)
- The meeting will be not recorded
- We will ask each speaker to write a short (~1 page) abstract to be included in a book of abstracts to be submitted to ArXiv.

**Welcome!**