

# A first glimpse on the results of the Masterclasses 2010 survey

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# Overview

## Introduction

Goals and study design

## Preliminary results

## Conclusions

## Backup slides

# Introduction

- ▶ My survey was carried out among the fraction of the participants living in countries speaking the following languages: Danish, German<sup>2</sup>, English, Greek, Italian, Polish, Portuguese, Serbian, Spanish
- ▶ All was done within the programme of ETH Zürich to obtain the grade for teaching at high-schools (*Lehrbeauftragter für Mittelschulen*)
- ▶ The results presented here are not final. This is by intention, as we plan a follow-up questionnaire about 4-6 months after the Masterclasses (see later)

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<sup>2</sup>restricted to Switzerland, Germany and Austria covered by Konrad

# Goals

The goals were defined in a plan<sup>3</sup> and cover

**Didactical impact** We want to see if participants learned something.

**Study topic decision** We want to find out if participants benefit from attending for their own choice of their study topic

**Other feedback** Some questions are not related to the study but were asked because of the opportunity for feedback.

Two groups are used: Masterclass participants and students from high schools not attending the masterclasses. The MC-students will get one questionnaire during the Masterclasses. A second one follows a couple of months later.

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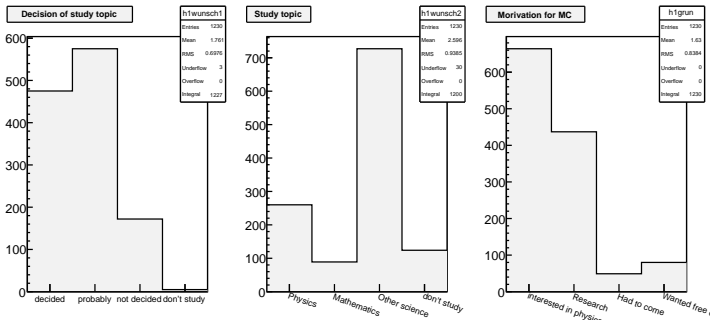
<sup>3</sup>available on request from the author, in German only

# Preliminary results

- ▶ Please keep in mind: **All results are preliminary.**
- ▶ This presentation uses the results from the Maserclasses participants only.
- ▶ None of the results were tested with statistical methods so far, so be careful.
- ▶ 1463 participants filled in the questionnaire, of them 1230 were finished and usable (see backup slides for more details)
- ▶ As you will see, a minor fraction of the answers seem unreasonable. Probably some participants were just careless

# Results: Study plans

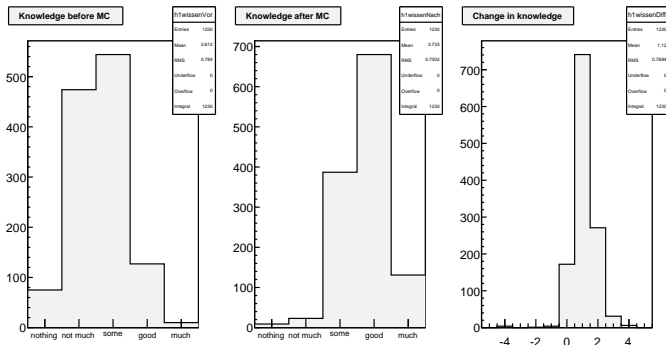
The participants have in general already quite a clear view of what they want to study:



Obviously our participants are interested in science.

# Results: Own view on acquired knowledge

How much do participants think that they increased their knowledge on particle physics while attending the Masterclasses?



There is clearly an increase visible.

## Results: Own judgment on physics knowledge

We asked the participants to justify their knowledge about the following terms in physics before and after the masterclasses:

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Atom	Neutron	Proton
Photon	Accelerator	Neutrino
Gluon	Electron	W-Boson
Higgs-Boson	Weak force	LHC
Standard model	Superconductivity	Dipole magnet

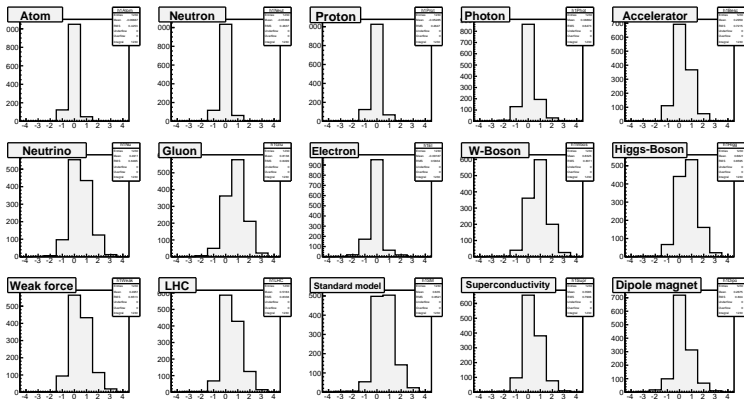
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Not every term was a central topic of the Masterclasses. Some should be clear to everybody, some are just out of scope. This has been done intentionally.

On the next slide you see a busy plot to just give you an overview of the answers.

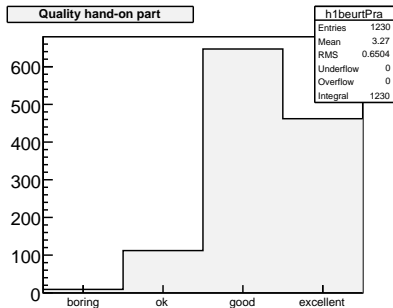
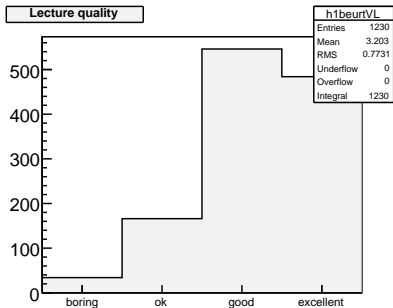


# Results: Own judgment on physics knowledge



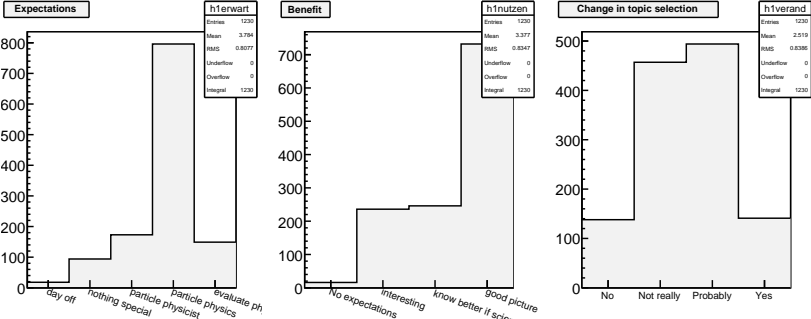
There is not much of surprise in here. Shown are changes before-after.

# Results: Quality of lectures and hands-on part



Both parts get good grades, the lectures slightly less than the hands-on part.

# Results: personal benefit from Masterclasses



People were mainly interested in particle physics. The impact to their study topic decision is not clear.

# Conclusions

- ▶ First results look good
- ▶ The more interesting part will follow later

# Call for translators

The survey contained free-text responses.

- ▶ I'm looking for help to read through these responses and prepare a summary.
- ▶ No full-text translation necessary, but a mindful interpretation
- ▶ They should have a understanding of the Masterclasses in order to get a good feedback. This rules out the people who helped me to translate the questionnaire.
- ▶ Languages required: Danish, Greek, Italian, Polish, Portuguese, Serbian, Spanish
- ▶ This will give an excellent feedback on individual aspects to the local organizers

People willing to help please contact [frank.meier@psi.ch](mailto:frank.meier@psi.ch)

## Participants profile

Language	participants	percentage
Danish	5	0.3 %
English	15	1.0 %
German (Switzerland)	28	1.9 %
German (outside)	36	2.4 %
Greek	380	25.8 %
Italian	153	10.4 %
Polish	147	10.0 %
Portuguese	608	41.3 %
Serbian	18	1.2 %
Spanish	83	5.6 %
Total	1473	100 %

Of them, 1230 (84 %) were filled in completely and used for the evaluation.