



GGSWBS

Dito Shergelashvili
shergelashvilidito@gmail.com

GTU
Faculty of Informatics and
Control Systems

Advisor: Qetevan Kotetishvili

Summer school for 3 week in FZJ /12.11.12 - 01.12.12

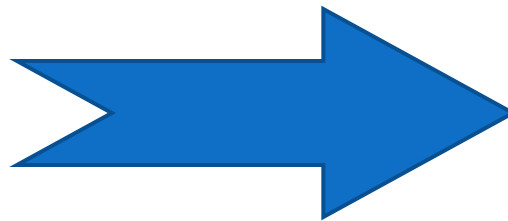
Our (students) conference
in Tbilisi, GTU .
My presentation :
NitroMeter



Summer school in Batumi



Discussing the questions



Summer school for 3 week in FZJ / Why we ?

First day in FZJ , we met the Prof. Dr. Hans Stroehler



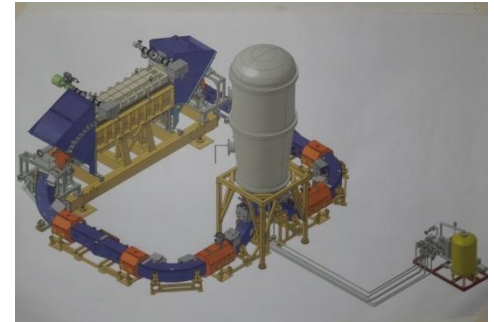
Prof. Dr. Hans Stroehler and Dr. Andro Kacharava gave us advices and we together planed what we do during our visit in FZJ

Summer school for 3 week in FZJ / Meeting

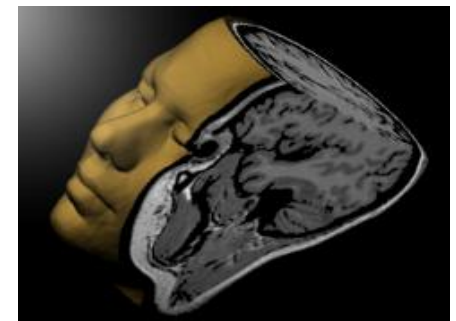
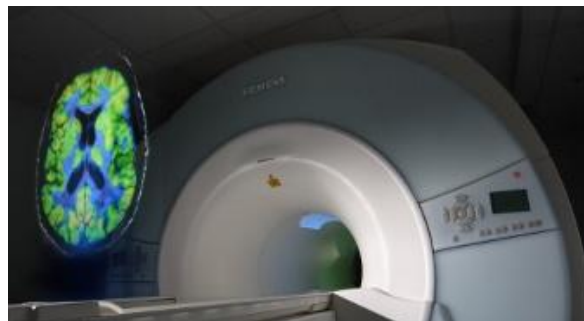
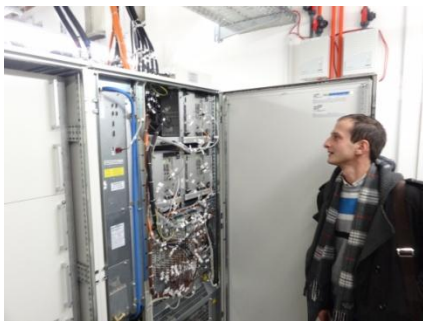
Our excursion in FZJ

With Dr. Andro Kacharava

COSY: From old history, present and future...

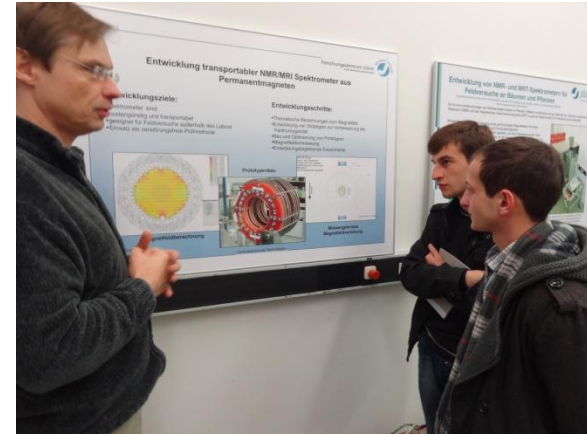


INM: Modern technologies and researches



Summer school for 3 week in FZJ / Excursion

ZAT - Central Institute of Technology



Modern technologies which get more ability to create something new

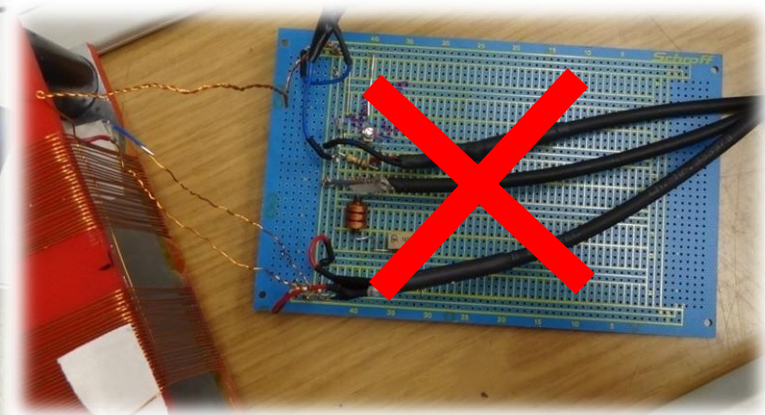


Summer school for 3 week in FZJ / Excursion / ZAT

Dr. Helmut Soltner introduce us specific LC resonator
And give us task for improving this resonator



LC resonator PCBA

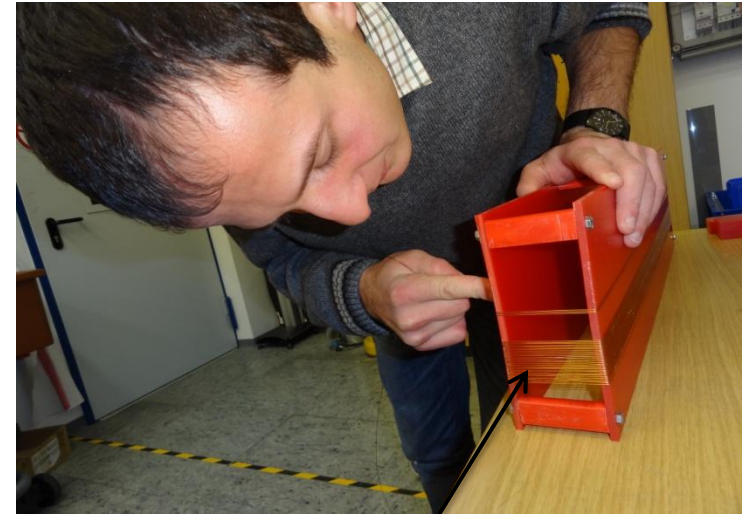


Summer school for 3 week in FZJ / ZAT / Interest and involve

First we draw figure for induction

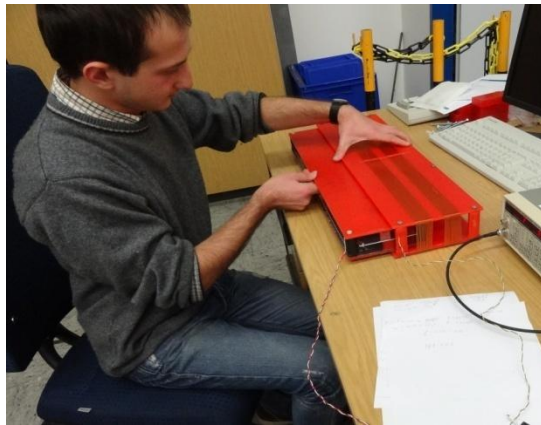


Then we built new induction from plastic

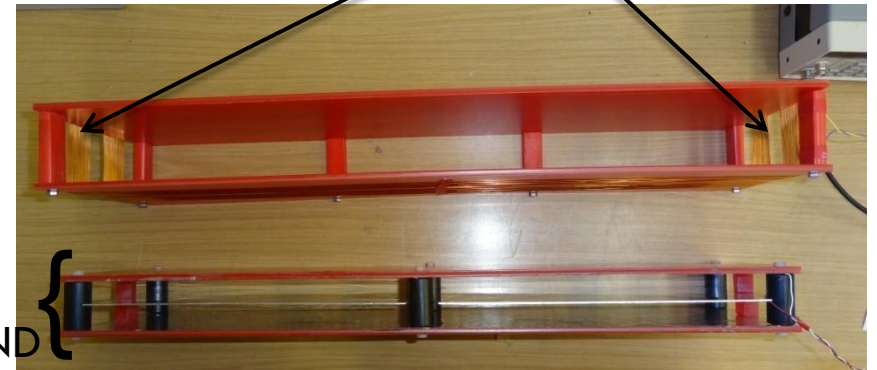


What we get?

Main coil

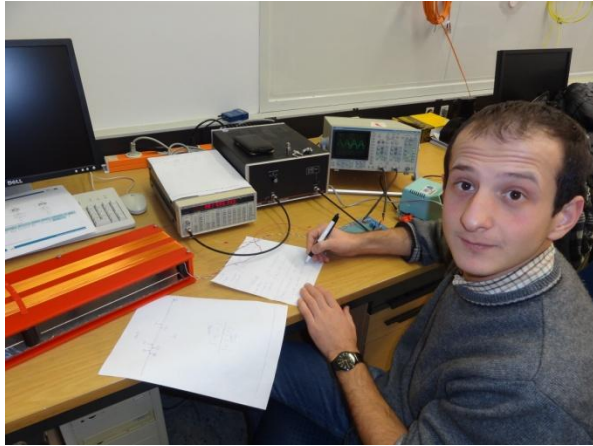


3 layer of plates
GND, Middle, GND



Summer school for 3 week in FZJ / ZAT / Working

Measurements and calculations



$$C_{\text{main}} = 96\text{pF}$$

$$L_{\text{main}} = 1.303\text{mH}$$

$$L_{\text{standart}} = 1.160\text{mH}$$

$$C_{\text{adjustable}} = 10\text{pF} - 150\text{pF}$$

New LC resonator PCBA

$L_{\text{main}} C_{\text{main}}$ resonance

C-inside the coil:

$$C = 96\text{pF}$$

$$L = 2.463\text{mH}$$

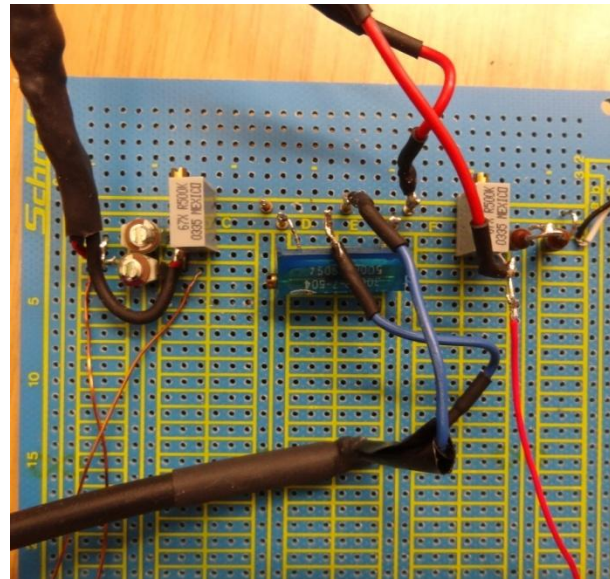
$$F_{\text{theory}} = 327.504\text{kHz}$$

C-outside the coil:

$$C = 96\text{pF}$$

$$L = 2.468\text{mH}$$

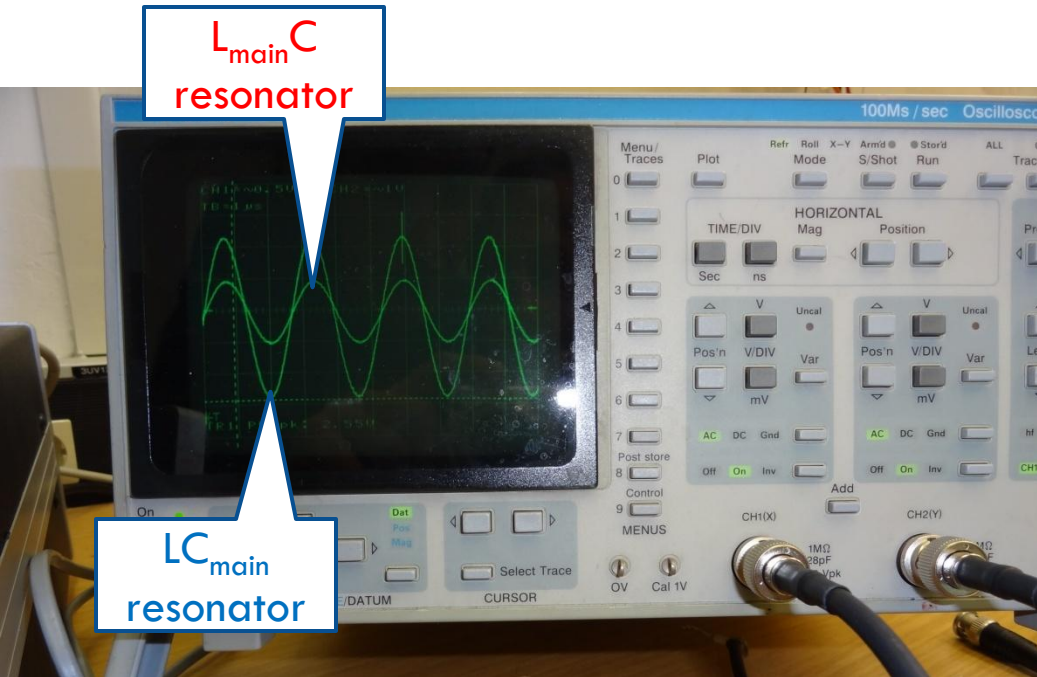
$$F_{\text{theory}} = 332.2054\text{kHz}$$



$$F_{\text{theory}} = 377.5\text{kHz}$$

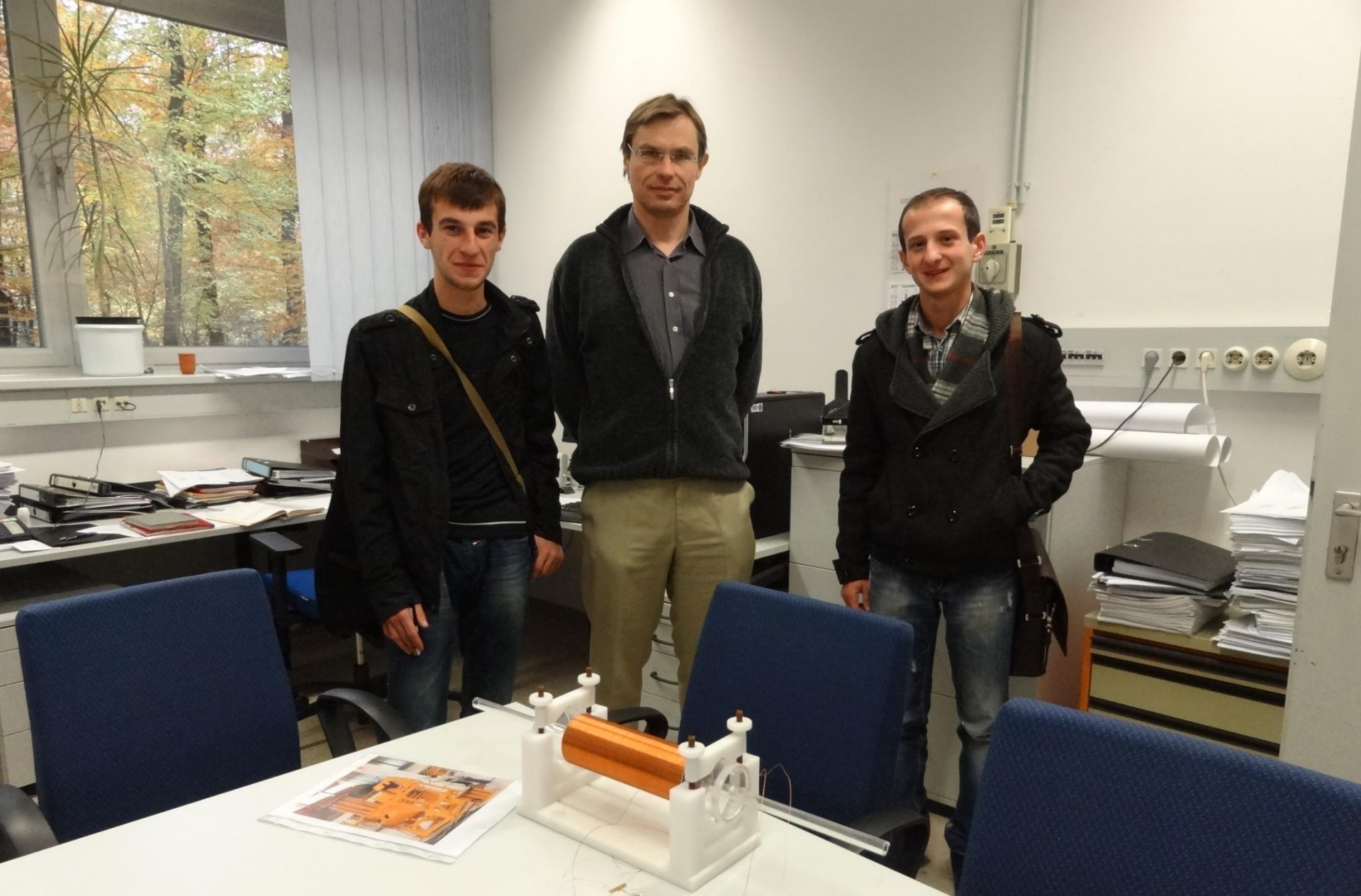
$$C_{\text{adjustable}} \approx 136.4\text{pF}$$

Result



$$F_{\text{theory}} = 377.5 \text{ KHz}$$

$$F_{\text{measurement}} = 381 \text{ KHz}$$



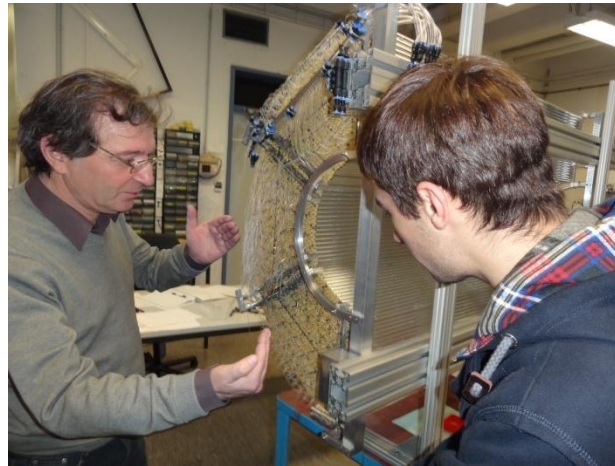
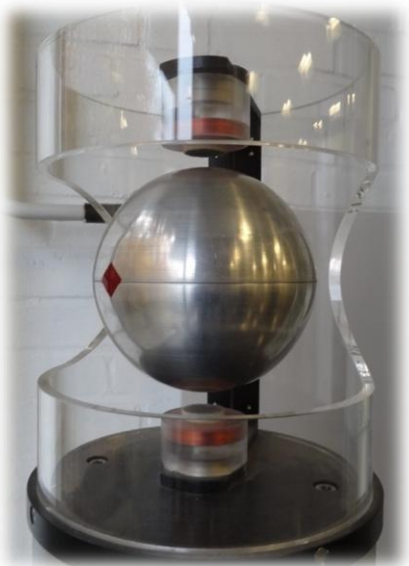
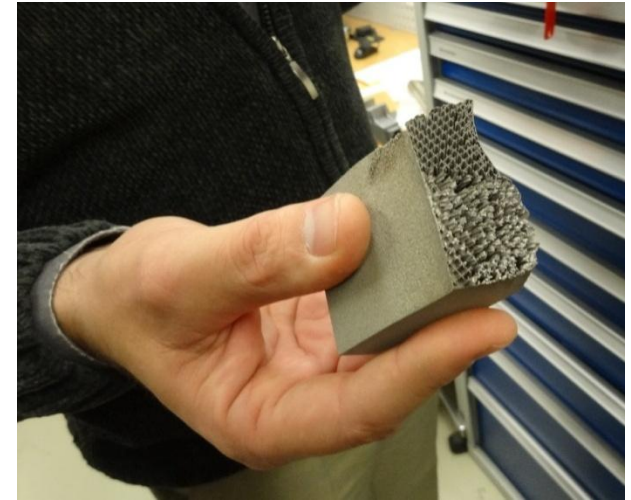
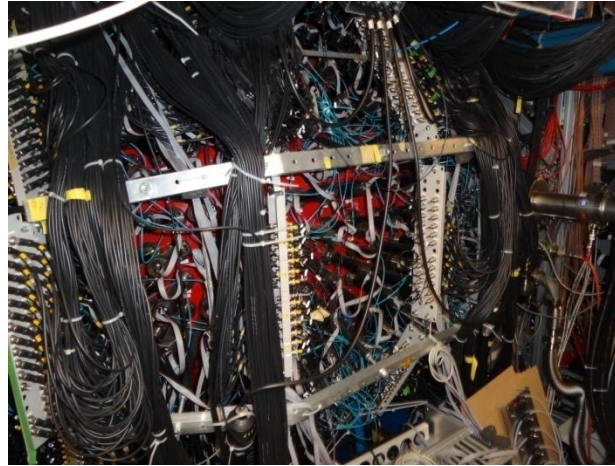
Summer school for 3 week in FZJ / ZAT / End our work

Our trip in Aachen and Brussels



Summer school for 3 week in FZJ / Trip

But more interesting and amazing is FZJ



Summer school for 3 week in FZJ / FZJ is better

Thanks:

Prof. Dr. Hans Stroeher, for inviting us in FZJ and gave us chance for getting good experience

Dr. Andro Kacharava, for guiding us and introducing everything in FZJ

Prof. Qetevan Kotetishvili for leading us and giving necessary informations

Dr. Helmut Soltner, Dr. Farida Grinberg and Ezequiel Farrher for giving us opportunity involved in their practical activities



Any question?

Summer school for 3 week in FZJ / Question

THANK YOU

FOR YOUR TIME AND ATTENTION