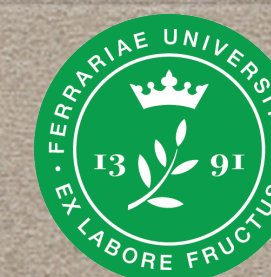


B PHYSICS CASE STUDY PLANS

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ABOUT MYSELF

PhD student, collaborating with the **BESIII experiment** in Beijing

Since master, my focus has been on
the **charmonium spectrum** and the **$c\bar{c}$ resonances**

I am concluding now an analysis I started back in my master

Now, during my PhD (started in Nov. 2019), I am continuing to follow this path with
my **main task** being an **search for the $Z_c(4430)$ in $Y(4660)$ decay**

I am also **no newbie** in the "**detector compartment**" as I am **collaborating** on
many tasks with the **CGEM - IT project**, whose aim is to develop and characterise a
triple **Cylindrical GEM** as an **Inner Tracker** for BESIII

ABOUT MY GROUP

Lots of expertise on both the analysis and the hardware

B physics knowledge: seniors coming from the Babar collaboration

Flavour physics within the BESIII collaboration

Strongly skewed towards hardware,
particularly focused on tracking (and PID)

ABOUT THE BENCHMARK

Wanted to start a secondary task still maintaining a strong connection with analysis

Wish to enter in a collaboration with which the Italian group has ties (via the RD_FCC group)

Use the previous knowledge of my local group to discover relatively new sides of HEP (beyond charmonium)

ABOUT THE BENCHMARK

After the *4th FCC Physics and Experiments workshop* and discussions with my group, I/we proposed to P. Azzi "a channel" of interest for us:

$$B^0_s \rightarrow D^\pm_s K^\mp$$

$$B^0 \rightarrow J/\psi K^0_s$$

with the goal of measuring the CKM gamma and beta angles.

The final scope of this study would be to test the IDEEA tracking system with a full simulation

OUTLOOK

First step is to get familiar with the Delphes code to reproduce the abundant results showed by Donal Hill and Roy Aleksan, to whom I sent a mail (as suggested by P. Azzi) informing them

Donal also shared with me all the tools needed

The temporal horizon for this first step would be (tentatively) end of January due to my all other PhD tasks