High velocity/efficiency PID for NA62

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Starting point

- 2018: last year of NA62 run then two-years shutdown

- Already clear not enough $\pi\nu\nu$ for final result: need to run after shutdown

- After shutdown: dark sector/ LNV too

- Try to improve NA62 starting from experience (read: data analysis) to run at higher efficiency/performance after shutdown

High Velocity/Efficiency PID

- Aim: high velocity/efficiency PID
- Try new (innovative) RICH sensors;
  - ➢ SIPM
  - ➢ SuperAlkali PM
  - ➢ Others
- Develop/study faster FE electronics
- Develop <u>Fast Triggers</u> (GPU, etc)

Conclusions

The outcome of the project will hopefully be useful in a broader framework, for experiments at high energy and high luminosity