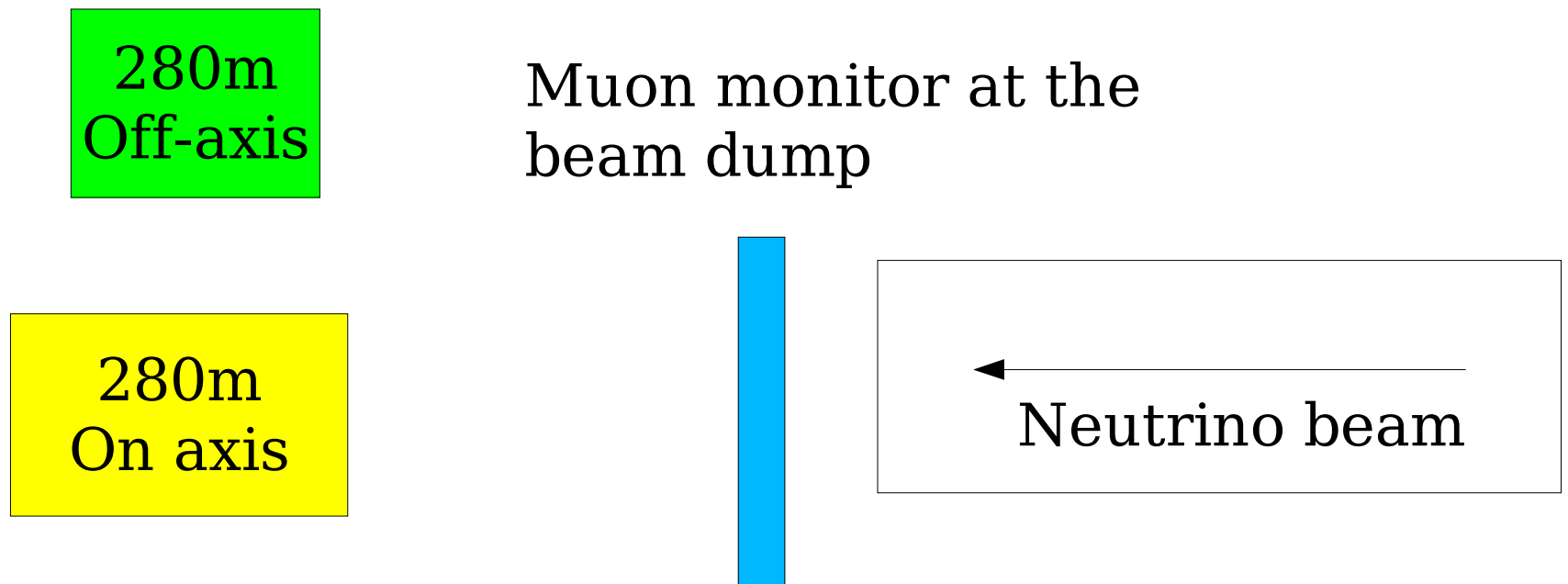


# Status of 280m studies

F.Sánchez  
Universitat Autònoma de Barcelona

# Status of 280m studies

The configuration of the 280-m



# Muon Monitor

## Function:

- Monitor the intensity of the beam spill by spill.
- Monitor the horn current.
- Monitor the alignment of the pion beam.

It looks at high energy muons. Radiation dose defines the threshold of muons: 8GeV seems to be a good compromise between radiation dose (for traditional technology) and sensitivity.

# Muon Monitor

The EU groups looked at the possibility of using diamond detector in high radiation areas to reduce the muon threshold.

The idea is to measure the pion spectrum from their decay muons. (As a substitute of the K2K PIMON).

Limited by the hadron showers from high energy hadrons entering the beam dump. Sensitive to pions above 2.0 GeV.

# 280m On Axis

## Functionality:

- Monitor neutrino beam flux and alignment.
- Measure the neutrino flux spectrum for beam MC tuning.
- It still has information to be used for the prediction of SK neutrino flux.

## Configuration:

- Not yet decided. Basic idea is to have a muon detector plus some fine grained detector.

# 280m Off Axis

## Functionality:

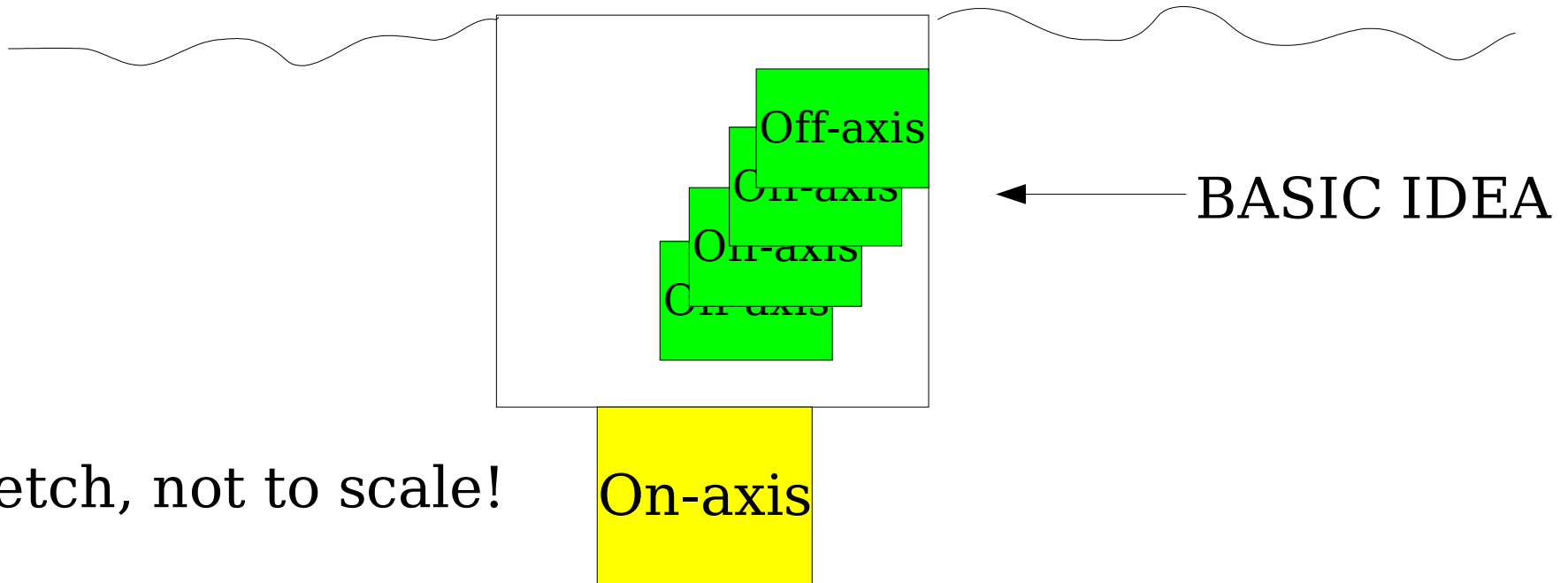
- Measure the neutrino flux spectrum for the prediction of SK flux (basic in case of non 2km option).
- Study neutrino interactions: main goal is to measure single  $\pi^0$  production for  $\nu_e$  background studies.
- Measurement of  $\nu_e$  background.

## Configuration:

- Not yet decided. Basic idea is to have a fine grained detector (i.e. Minerva), water target is also considered.
- It is considered to have a moveable detector to scan several off-axis positions.

# 280m priorities

We have to define before the end of October the layout of the detector for the excavation.



Meeting will take place at KEK from 25<sup>th</sup> to 27<sup>th</sup> of October.

# 280m group

EEUU: Boston Univ. (280m off-axis), Stonny Brook (detector technology)

Canada: Triumpf (280m on/offaxis + mu mon. and detector technology)

Japan: Kyoto University, KEK, Tokyo University (Muon Monitor, beam related studies)

Europe: Barcelona and Valencia Univ. (muon monitor -not anymore- and beam related studies)