Kolokwium z Pracowni Komputerowej
LaTeX
wersja B

Imie i Nazwisko

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1 Zadania 1, 2 i 3

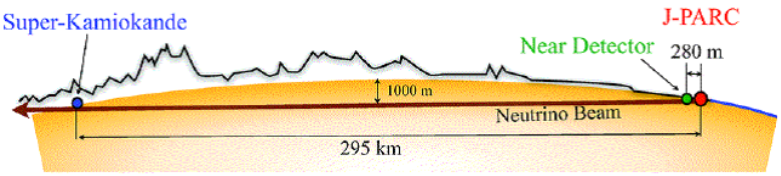
Stwórz katalog Imie_Nazwisko i w nim zapisuj wyniki kolokwium. W katalogu Imie_Nazwisko stwórz kod źródłowy Imie_Nazwisko.tex, ktory ma zawierać Imie i Nazwisko autora po tytule oraz poniższe podpunkty (1, 2, 3):

1.1 Zadanie 1

The T2K long baseline neutrino oscillation experiment The T2K experiment is a long baseline neutrino oscillation experiment which uses an intense proton beam produced by the J-PARC accelerator in Tokai, Japan. It is composed of neutrino beamline, near detector complex (ND280), both of which were newly constructed and far detector *Super-Kamiokande* located 295 km away from J-PARC (see Fig. 1).

1.2 Zadanie 2

J-PARC facility The design parameters of the J-PARC Main Ring for the fast extraction are listed in Tab. 1.



Rysunek 1: Schematic view of the T2K experiment. Neutrino beam is produced at J-PARC facility and measured by near detectors (green dot) used to determine the properties of the neutrino beam, and 295 km away far detector *Super-Kamiokande*. Figure is taken from Ref. [1]

Circumference	1567 m
Beam power	750 kW
Beam kinetic energy	30 GeV
Beam intensity	3×10^{14} p/spill
Spill cycle	~0.5 Hz
Spill width	~ 5 μsec

Tablica 1: The characteristics of MR for the fast extraction in J-PARC. Numbers taken from Ref. [1].

2 Zadanie 3

Pions decay Pions decay there into muons and muon neutrinos:

$$\pi^+ \rightarrow \mu^+ + \nu_\mu \tag{1}$$

Some of the resulting muons can also decay producing muon antineutrinos and electron neutrinos:

$$\mu^+ \rightarrow e^+ + \bar{\nu_\mu} + \nu_e \tag{2}$$

Literatura

[1] K. Abe *et al.*, [T2K Collaboration], *The T2K experiment*, accepted for publication in Nucl. Instrum. Methods, article in press, arXiv:1106.1238 [physics.ins-det], (2011).