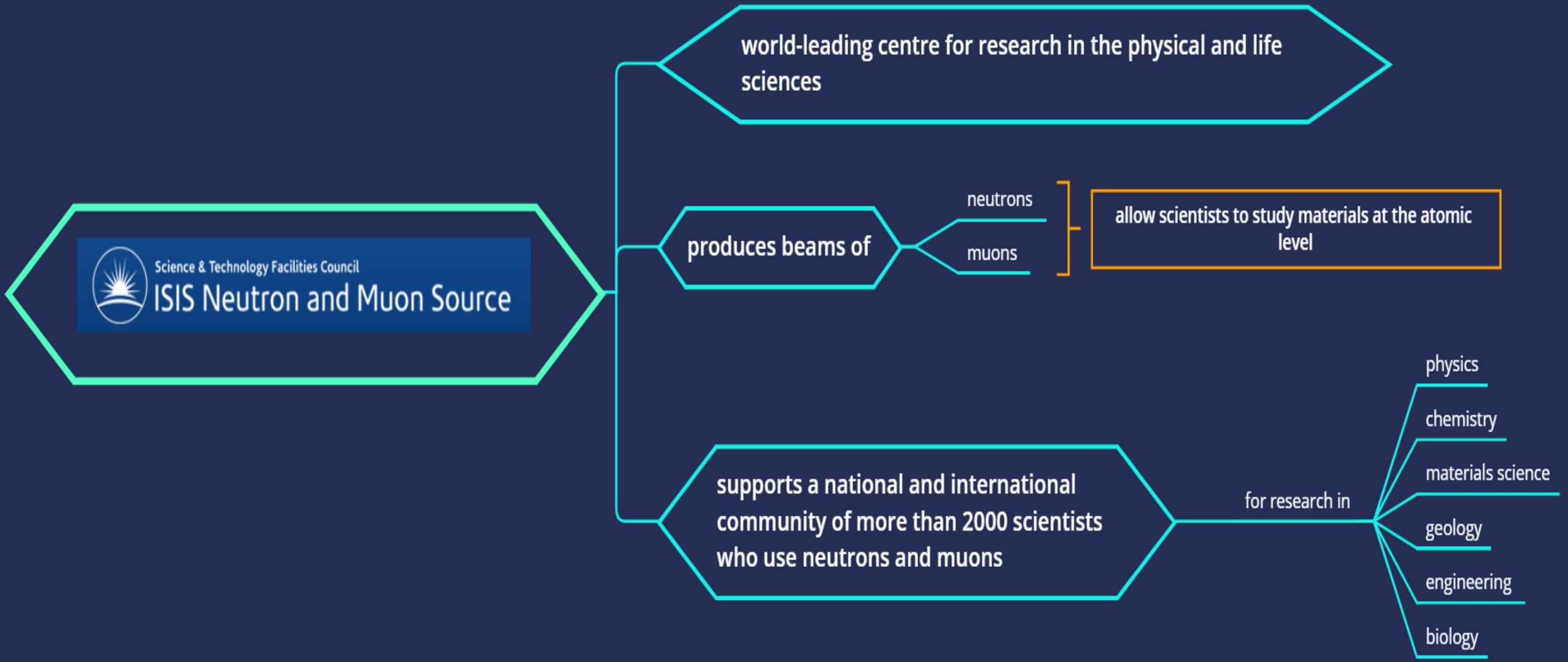

Science & Technology Facilities Council
ISIS Neutron and Muon Source
world-leading centre for research in the physical and life sciences
produces beams of
neutrons
muons
allow scientists to study materials at the atomic level
supports a national and international community of more than 2000 scientists who use neutrons and muons
for research in
physics
chemistry
materials science
geology
engineering
biology

Science & Technology Facilities Council
ISIS Neutron and Muon Source

Synchrotron Current

0 µA

Efficiency

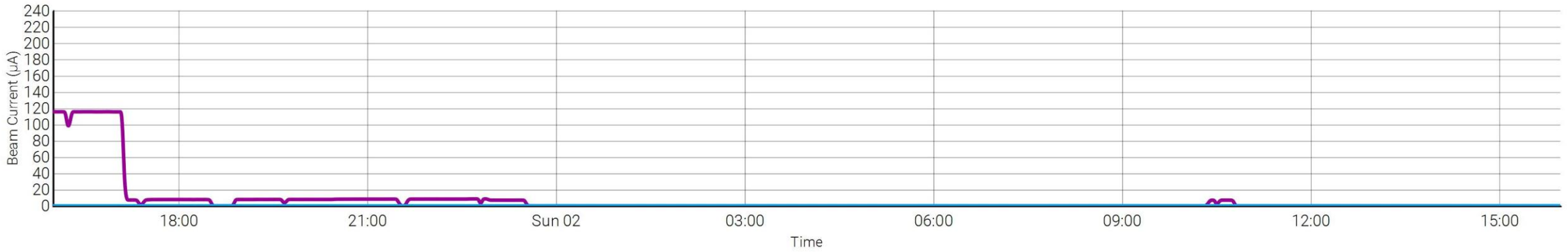
0.0%

Cycle 2019/4

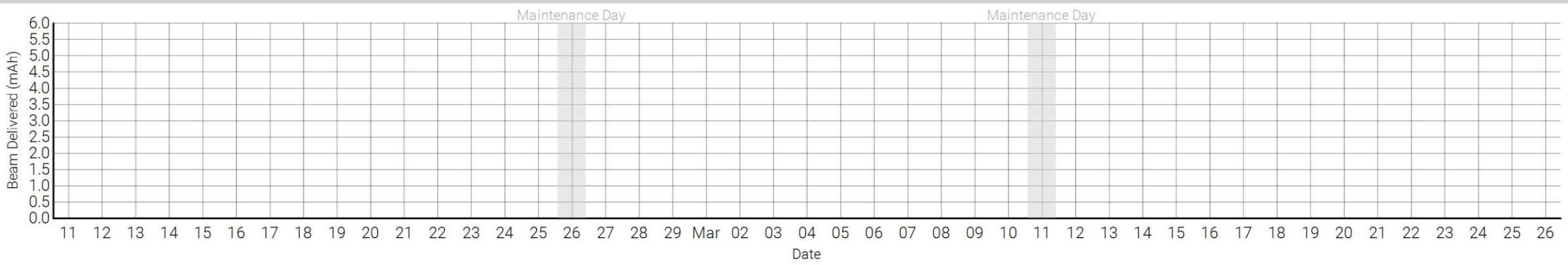
11-Feb to 27-Mar

Target 1	0.0 µA
Muon	0.0 µA
Target 2	0.0 µA

Average Beam Current



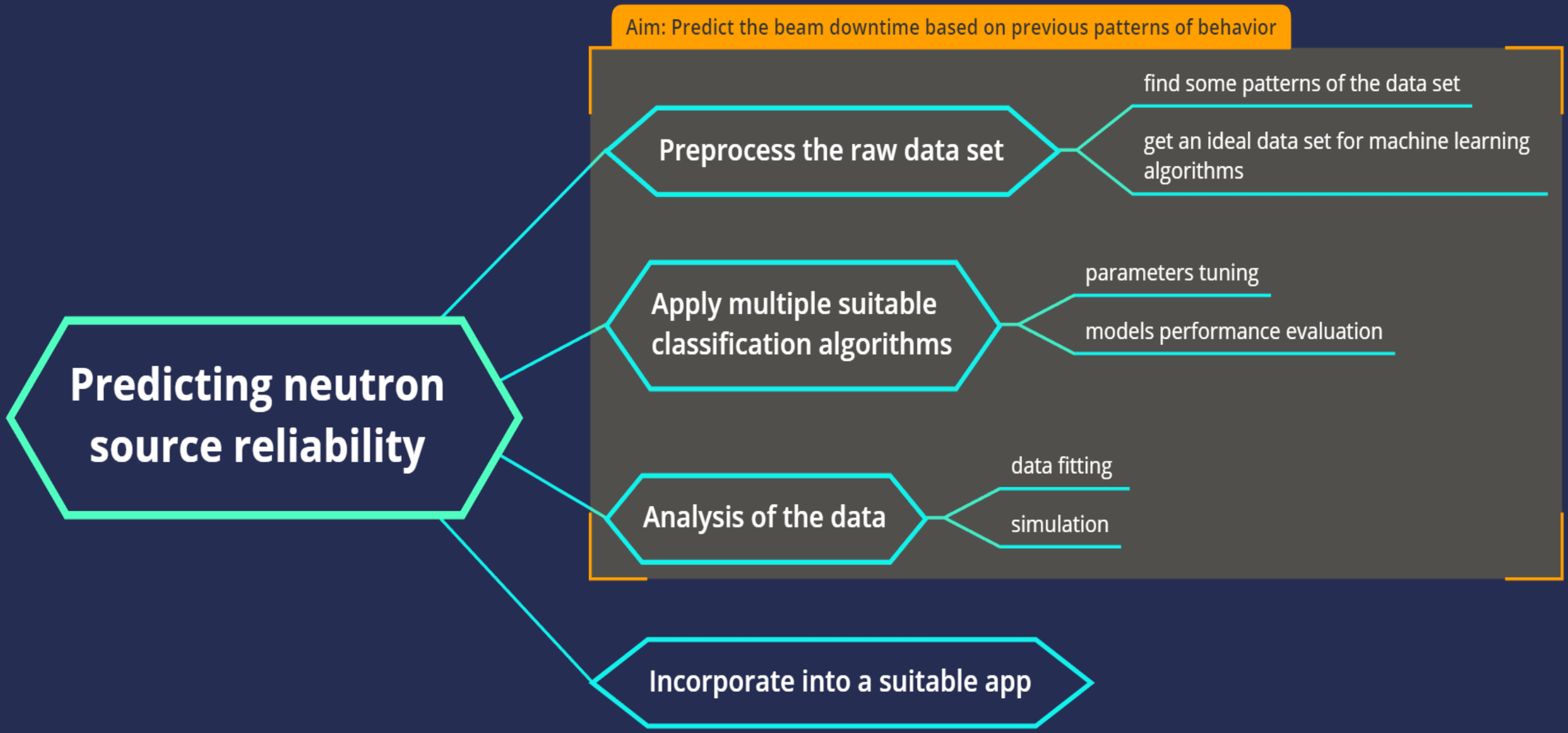
Integrated Daily Beam Current - (from 8:30 AM)

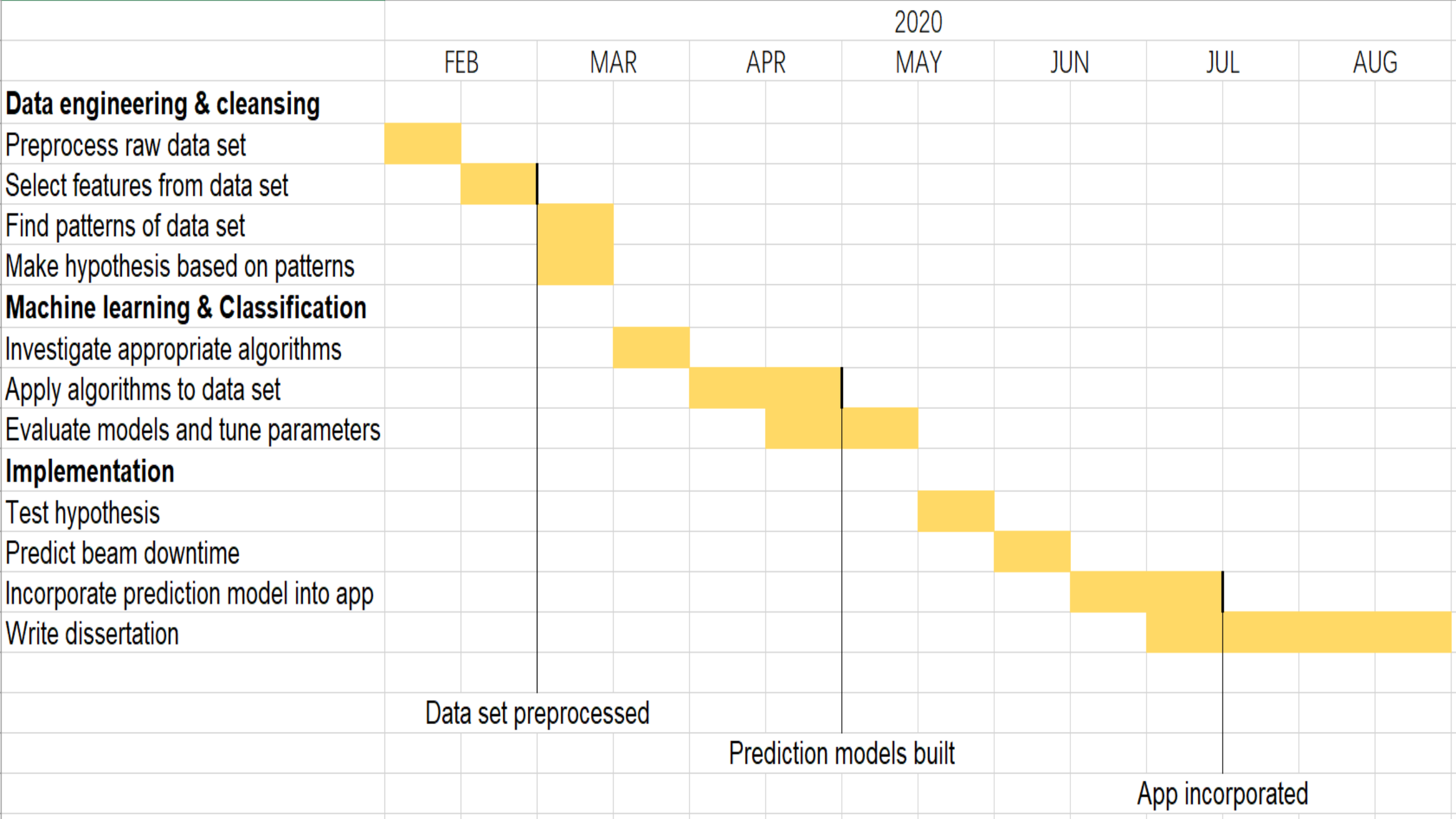


Last updated at 15:58:49 Sun 02 Feb

ISIS-Status@stfc.ac.uk

Cycle Availability TS1 0.00% TS2 0.00%


Predicting neutron source reliability
Aim: Predict the beam downtime based on previous patterns of behavior
Preprocess the raw data set
find some patterns of the data set
get an ideal data set for machine learning algorithms
Apply multiple suitable classification algorithms
parameters tuning
models performance evaluation
Analysis of the data
data fitting
simulation
Incorporate into a suitable app


2020
FEB
MAR
APR
MAY
JUN
JUL
AUG
Data engineering & cleansing
Preprocess raw data set
Select features from data set
Find patterns of data set
Make hypothesis based on patterns
Machine learning & Classification
Investigate appropriate algorithms
Apply algorithms to data set
Evaluate models and tune parameters
Implementation
Test hypothesis
Predict beam downtime
Incorporate prediction model into app
Write dissertation
Data set preprocessed
Prediction models built
App incorporated