



Material Accountancy Performance Indicator Toolkit

Simplifying accountancy for bulk facilities

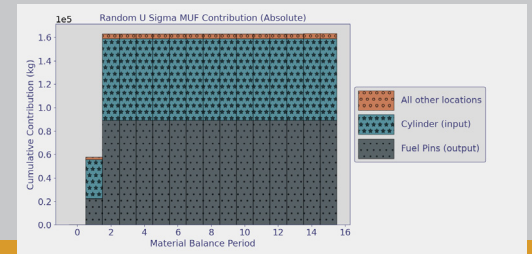
Material accountancy is a cornerstone of safeguards and security for nuclear fuel cycle facilities. However, the underlying methodologies can often be difficult to interpret and implement. Written in Python, the Material Accountancy Performance Indicator Toolkit (MAPIT) is the first free and open-source toolkit for performing material accountancy for bulk nuclear facilities.

MAPIT provides both a graphical user interface and application programming interface to support a variety of workflows. Targeting seasoned experts and newcomers alike, MAPIT enables contrastive analysis to compare different facility sensor arrangements for optimal accountancy system design.

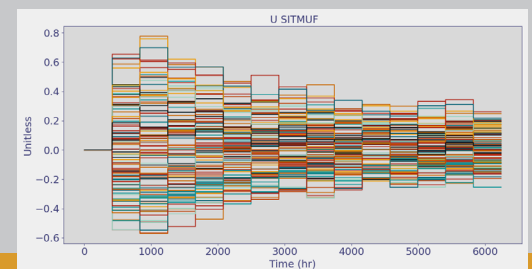
- ✓ Implements common statistical tests
- ✓ Automated error propagation
- ✓ Comprehensive documentation
- ✓ Rich API and intuitive GUI

```
1 MB1 = StatsProcessor.MBArea(rawInput = indat,  
2                               rawInventory = invdat,  
3                               rawOutput = outdat,  
4                               rawInputTimes = inTdat,  
5                               rawInventoryTimes = invTdat,  
6                               rawOutputTimes = outTdat,  
7                               inputErrorMatrix = inputErrorMatrix,  
8                               inventoryErrorMatrix = inventoryErrorMatrix,  
9                               outputErrorMatrix = outputErrorMatrix,  
10                              mbaTime = mbaTime,  
11                              iterations = 50)  
  
✓ 0.0s  
  
1 MUF = MB1.calcMUF()  
✓ 6.9s  
  
Error Prop: 100.00% [Elapsed: 00:00 | Remaining: 00:00]  
Error Prop: 100.00% [Elapsed: 00:00 | Remaining: 00:00]  
Error Prop: 100.00% [Elapsed: 00:03 | Remaining: 00:00]  
MUF : 100.00% [Elapsed: 00:02 | Remaining: 00:00]
```

EASY TO USE API



VERSATILE VISUALIZATIONS



BRING YOUR OWN DATA OR USE OUR EXEMPLARS

Scan the QR code to learn more.



Sandia National Laboratories

MAPIT-dev@sandia.gov

Development funded by the MPACT program within the Department of Energy's Office of Nuclear Energy • Sandia National Laboratories is a multimission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525