

Status Report on BSM Software & Data Integration

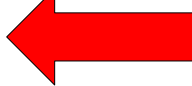
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BSM SW & Data Integration

- Goal of the work
 - To develop an integrated work-flow of DUNE BSM physics simulation programs.
- Liaisons
 - Heavy Neutral Lepton: Athanasios Hatzikoutelis
 - Light Dark Matter: Wooyoung Jang,
Jae Yu
 - Non-Standard Interactions: Celio A. Moura
 - Sterile Neutrino: Alexandre Sousa,
David V. Forero,
Mike Wallbank
 - Neutrino Trident: Justo Martin-Albo
- Please let me (wooyoung.jang@uta.edu) know if you are interested in this work and want to join the meeting.

A Vision of SW & Data Integration

- An integrated simulation environment 
- Common storage space
- Data management
- Version control of simulation data or software
- Documentation

Integrated Software Environment

- A shell script-based integrated environment
 - Aiming to work on the `dunegpvmXX.fnal.gov` machines.
 - We can imagine a similar usage as if we do everytime in dunegpvm machines:

```
$ source /cvmfs/dune.opensciencegrid.org/products/dune/setup_dune.sh
```

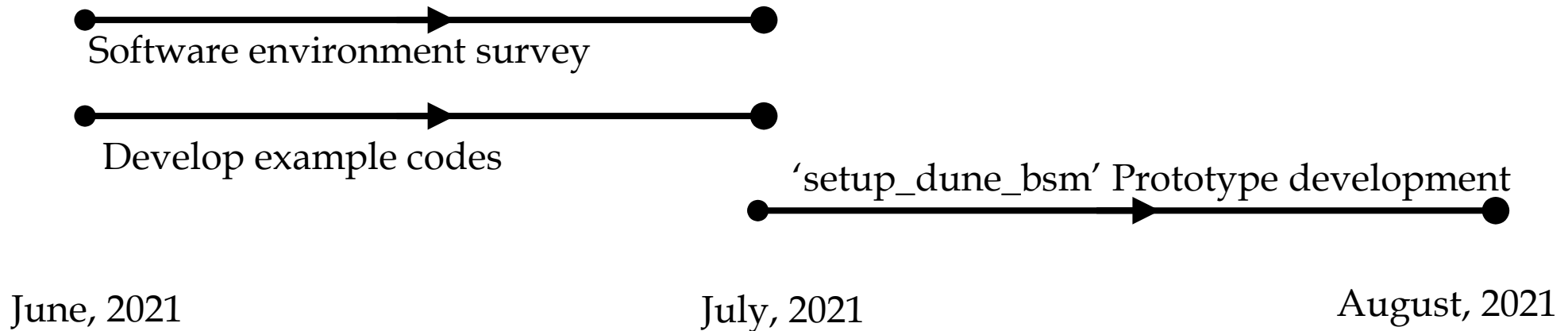
- This helps to setting up of basic environment of DUNE-related softwares.
- The integrated software environment of BSM group will do the similar thing:

```
$ setup_dune_bsm
```

- Each topical groups will provide some example scripts that producing practical simulation result and analysis output, and those scripts will be included in the integrated software environment.

To do list & Milestones

- Survey
 - What is the most stable software environment for each topical group study?
- Development
 - A shell script for easy access to the simulation software on dunegpvm machines.
 - Basic example scripts



Summary

- In order to systematically organize the research programs in BSM physics/pheno group, and to gain more efficiency of future studies, it is necessary to build an integrated framework of BSM simulation and analysis tools.
- A shell-script based prototype software providing integrated environment will be developed.
- Details for development of `setup_dune_bsm` will be discussed in the coming SW integration meeting.