

SimSET new directions

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- SimSET's user functions
 - New structure
 - Two examples.
- SPECT
 - Photon-tracking collimator.

New user function setup

```
addrandUsrDets1FType    *addrandUsrModDecays1FPtr = NULL;
```

```
/*addrandUsrDets1FType *addrandUsrModDecays1FPtr =  
    addrandUsrModDecays1;*/
```

- To use a user function
 - Delete the function pointer set to NULL;
 - Uncomment the other function pointer;
 - Set this pointer to your user function.

New user function setup

```
addrandUsrDets1FType *addrandUsrModDecays1FPtr =  
procTriplesProcess;
```

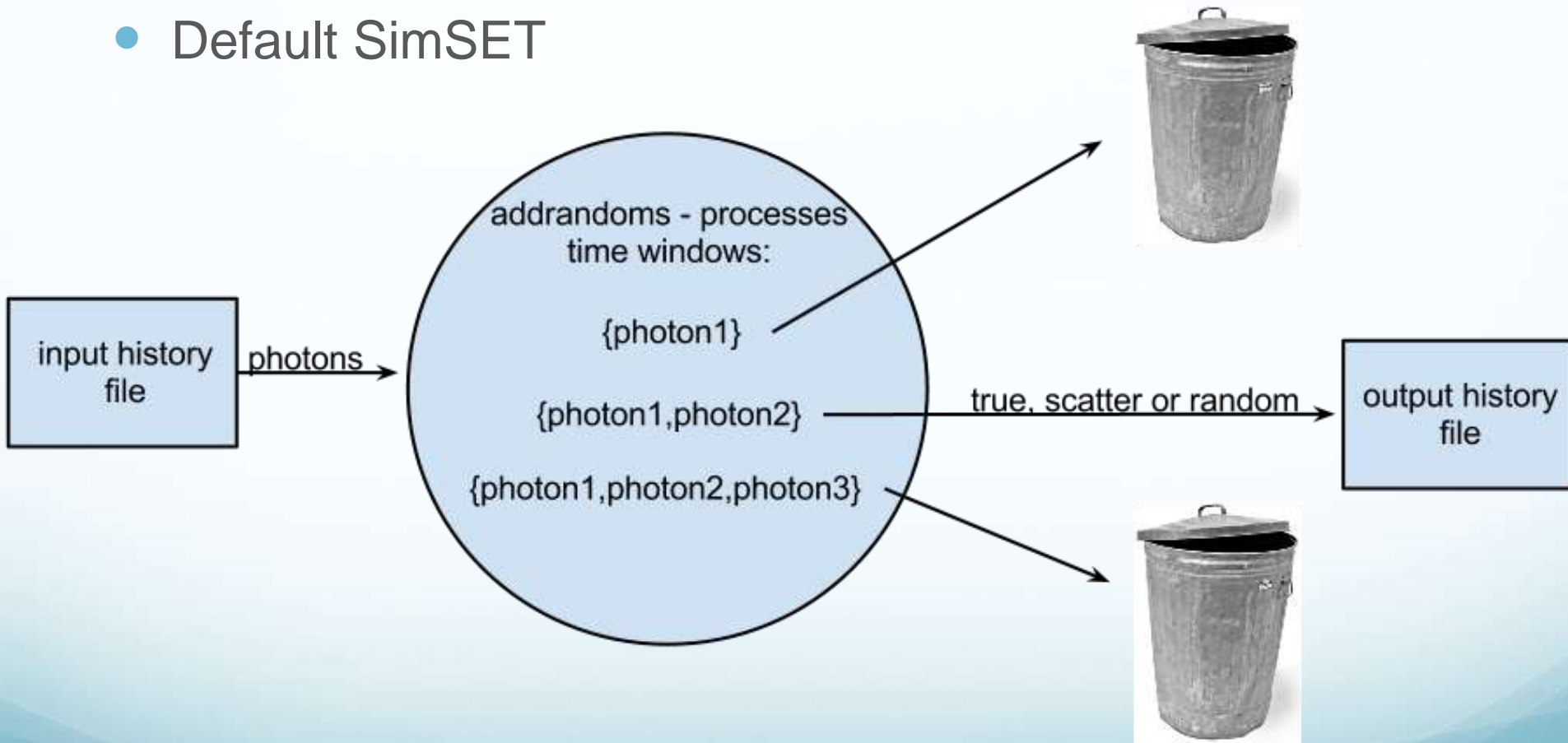
- To use a user function
 - Delete the function pointer set to NULL;
 - Uncomment the other function pointer;
 - Set this pointer to your user function.
- Advantages of the new user function setup:
 - User function can be chosen dynamically;
 - Stub functions are not run for every event when the pointers are set to NULL.

User function examples

- Simple user functions.
- Triple event processing in addrandoms.
- Depth-of-interaction binning variable.

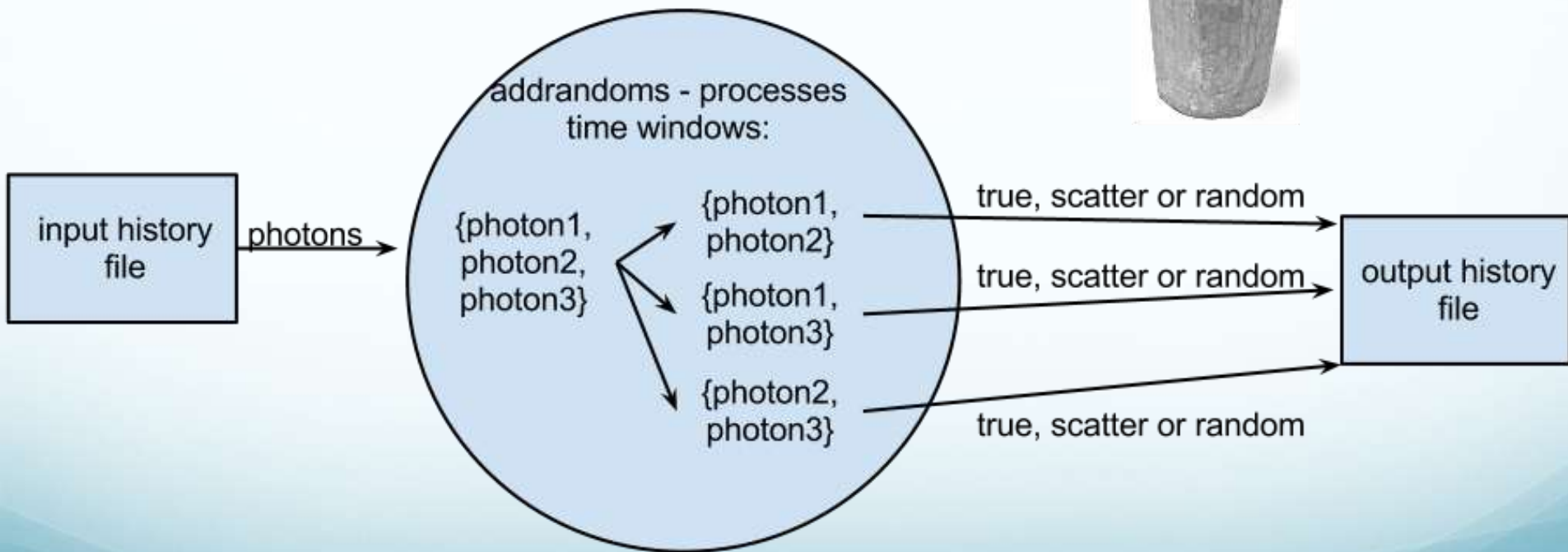
Triple event processing

- Default SimSET



Triple event processing

- SimSET with triple event processing user function



User function summary

- User functions can tailor SimSET to better ‘fit’ a given tomograph.
 - Triple event processing.
 - Deadtime effects.
 - Depth-of-interaction / other binning options.
 - Lead x-rays.

SPECT collimation

- Only geometric collimation is available currently.
 - Septal penetration not modeled.
 - Scatter in the collimator not modeled.
- We plan on adding a photon-tracking collimator.
 - Very inefficient.
 - We will attempt to accelerate it:
 - Using importance sampling;
 - Using GPUs.

Contact information

- Website:
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