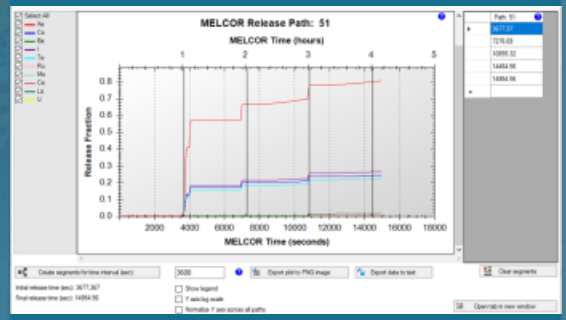
SAND2022-5256C

Sandia National Laboratories

MelMACCS 4.0.0 Overview and Demo



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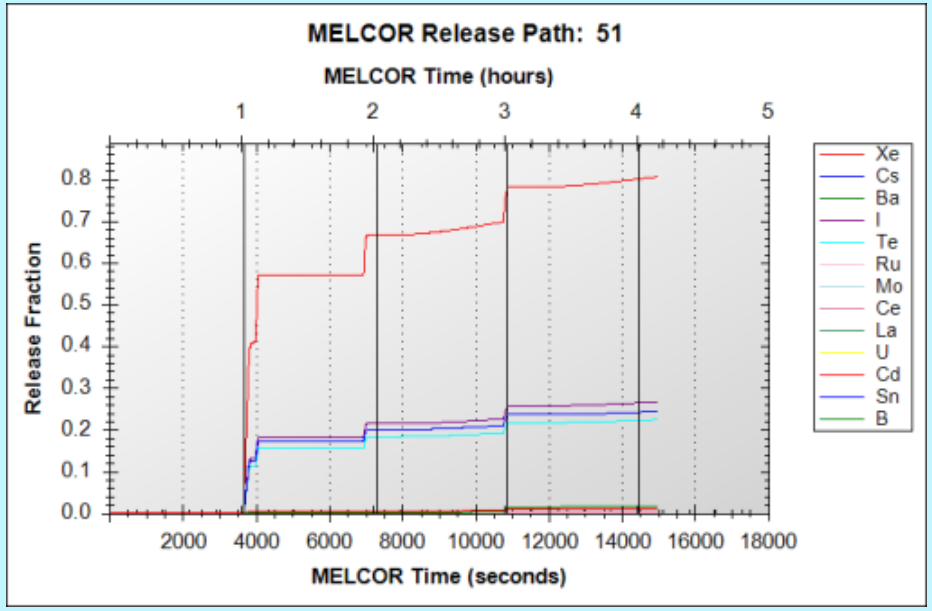
Using MELCOR information for Consequence Analyses in MACCS

Latest publicly available version is MelMACCS 2.0.1

MelMACCS

Acts as an interface utility between MELCOR and MACCS by extracting the needed source term data from a MELCOR plot file for consequence analyses in MACCS.



MelMACCS 4.0.0 release date to be determined…

MELCOR

MACCS

MelMACCS Overview

MELCOR Plot File

- Scram time
- Particle size groups
- Number of rings
- Number of chemical groups and their initial masses in the core
- Release paths and their associated height
- Amount released for each chemical group in every release path

MACCS Input File

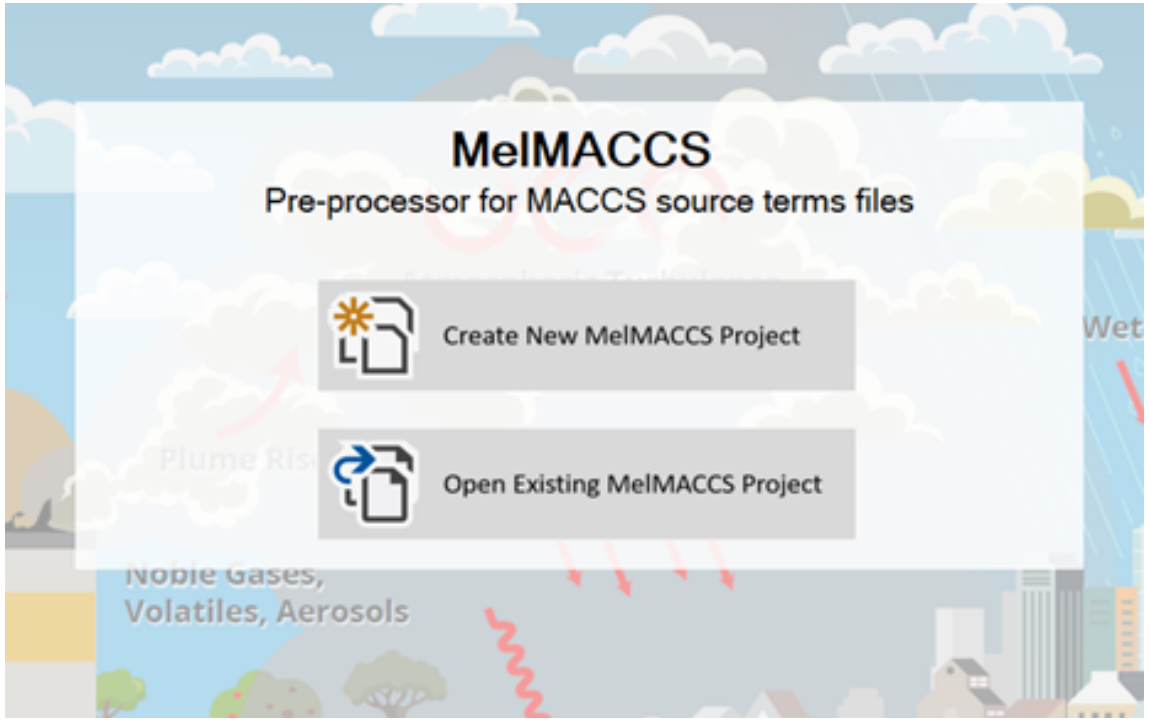
- Release paths broken up into plume segments with their associated height
- Start time of each plume segment and duration
- Sensible heat, average plume flow rate, and gas density for each plume segment
- Release fractions for each chemical group and plume segment
- Dry deposition velocities
- Particle size distributions
- Building dimensions
- Initial plume dimensions for each segment
- Radionuclides assigned to each chemical group and their initial inventories

4.0.0 Capabilities

- All capabilities from the previous version were carried over

Updates!

- New graphical user interface design and set up
- Users will have the ability to save and return to their MelMACCS project
- Users will be able to export MELCOR data to a text file or excel file
- Users will be able to download and use a source term library containing example plot files
- Parameters and bounds will be consistent with MACCS 4.0.0
- All available chemical groups found in the MELCOR plot file will now be seen in the user interface
- There will now be multiple ways to create plume segments
- New capability to automatically determine plume segment of maximum risk based on chemical group weighting factors and a cutoff time



Live Demo