

Swimming Pool Thermal Model Documentation

Overview

The swimming pool model (`batem.sites.pool.Pool`) simulates the thermal behavior of an outdoor swimming pool, including heat losses, solar gains, and heating system control. The model uses a lumped thermal mass approach with hourly time steps to predict pool water temperature and energy consumption.

Model Architecture

Physical Structure

The pool is modeled as a rectangular basin with the following geometric parameters:

- **Length** (`pool_length`): Pool length in meters
- **Width** (`pool_width`): Pool width in meters