Kamodo C++

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Steps for KamodoC++ on Windows

• Build a conda environment for pybind11 and Kamodo ✔️

• Embed python into C++ using pybind11 ✔️

• Embed Kamodo into C++ (In process)

• Run Kamodo in C++ from notebook interactively (Coming soon!)

• **Goal:** Enable a virtual satellite flythrough of model data from C++
Installation instructions (Windows 10)

• For Windows, use Anaconda prompt. For WSL v1, use linux terminal

• Create a conda environment
  • conda create -n KamodoCXX_Win python=3.7.9
  • conda install -n KamodoCXX_Win -c conda-forge pybind11 cmake plotly sympy scipy pytest pandas hydra-core requests ipython
  • conda activate KamodoCXX_Win
  • pip install python-forge
  • conda deactivate (when done)

• Install Kamodo in desired directory from https://github.com/asherp/Kamodo
  (Some specialized adjustments currently needed.)
Folders and Files

Directory Structure

- **KamodoCXX_Win**
  - CMakeLists.txt
  - K1.py
  - main.cpp
  - build
  - KamodoMaster

- **build** directory will contain the executable once built
- **KamodoMaster** directory contains Kamodo unzipped
Build Commands
(from the directory of main.cpp)

**Windows 10**
- conda activate KamodoCXX_Win
- cmake -B build -A x64
- cmake --build build
- set PYTHONHOME = *(path to python.exe in env)*
- build\Debug\main.exe

**Windows 10 using WSL v1**
- conda activate KamodoCXX
- cmake -B build
- cmake --build build
- chmod +x build/main
- ./build/main

**Windows 10 Note:** The path of python.exe is printed by the message command in the CMakeLists.txt file after the find_package python command.

**Before** using ‘conda deactivate’ on Windows 10, do ‘set PYTHONHOME = C:\ProgramData\Anaconda3’ or wherever Anaconda stores it’s main python.exe or the command will error.
Finds the python installed in the conda env
Outputs the path for PYTHONHOME for later
Creates and prints a kamodo object from C++