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Deep Integration: Python in the Cling World

The language improvements in C++11/14 greatly reduce the amount of boilerplate code required and allow resource ownership to be clarified in interfaces. On top, the Cling C++ interpreter brings a truly interactive experience and real dynamic behavior to the language. Taken together, these developments bring C++ much closer to Python in ability, allowing the combination of PyROOT/cppyy and Cling to integrate the two languages on a new level. This paper describes the current state of the art, including cross-language callbacks, automatic resource management, software transactional memory, automatic template instantiations, and the ability to use Python from Cling.

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