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h5hep: wrapping HDF5 to achieve a ROOT-like file format[1] MADELINE HAGEN, MATTHEW BELLIS, Siena College, CMS COLLABORATION — High-Energy Physics (HEP) datasets are challenging for many file formats because of the inhomogeneous nature of the dataset: one event may have 3 jets and 2 muons and the next event may have 12 jets and no muons. Most file formats excel when the data exists in some simple n x m block structure. The TFile and TTree objects in ROOT handle these datasets incredibly well but require users to import the entire ROOT ecosystem just to read the files, locking out users from other communities that do not use ROOT. h5hep (HDF5 for Heterogeneous Entries in Parallel) is a wrapper to the HDF5 format that gives users access to the ROOT functionality without ROOT and making use of native python tools. The performance of this tool and its application to non-HEP datasets will be presented.

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