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MiniAOD: A new analysis data format for CMS

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The CMS experiment has developed a new analysis object format (the "mini-AOD") targeted to be less than 10% of the size of the Run 1 AOD format. The motivation for the Mini-AOD format is to have a small and quickly derived data format from which the majority of CMS analysis users can perform their analysis work. This format is targeted at having sufficient information to serve about 80% of CMS analysis, while dramatically simplifying the disk and I/O resources needed for analysis. This improvement should bring substantial improvements in resource needs and turn-around time for analysis applications. Such large reductions were achieved using a number of techniques, including defining light-weight physics object candidate representations, increasing transverse momentum thresholds for storing physics-object candidates, and reduced numerical precision when it is not required at the analysis level. In this contribution we discuss the critical components of the mini-AOD format, our experience with its deployment and the planned physics analysis model for Run 2 based on the mini-AOD.

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