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# The Liquid Argon Software Toolkit (LArSoft): Goals, Status and Plan (15' + 5')

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LArSoft is a toolkit that provides a software infrastructure and algorithms for the simulation, reconstruction and analysis of events in Liquid Argon Time Projection Chambers (LArTPCs). It is currently used by the ArgoNeuT, LArIAT, MicroBooNE, DUNE and SBND experiments. The LArSoft collaboration has been formed to provide an environment for the development, use, and sharing of code across experiments. The ultimate goal is to develop fully automatic processes for reconstruction and analysis of LARTPC events. The toolkit is based on the art framework and has a well-defined architecture to interface to other packages, e.g., the PANDORA software development kit for pattern recognition. It is designed to facilitate and support the evolution of algorithms including their transition to new computing platforms. The development of the toolkit is driven by the scientific stakeholders involved. The core infrastructure includes standard definitions of types and constants, means to input experiment geometries as well as meta and event-data in several formats, and relevant general utilities. Examples of algorithms experiments have contributed to date are: photon-propagation and particle identification; hit finding, track-fitting and vertex finding; and shower and cluster finding analysis. We will report on the status of the toolkit, performance, plans for future work, and on how the international collaboration is progressing.

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