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Key4hep: A Software Framework for Future Colliders

The Key4hep project provides a collaborative software ecosystem for the development and study of future collider detector concepts. Initiated in 2019 by multiple international particle physics communities, it offers a comprehensive software infrastructure for simulation, reconstruction, and analysis. By developing its own event data model, EDM4hep, and integrating it with established tools like DD4hep and Gaudi, Key4hep has become the standard framework for detector studies at future colliders. However, it faces funding challenges that could impact its long-term sustainability.

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