Modernizing ATLAS simulation

- The ATLAS simulation code has been assisting detector design and data analysis since the very inception of the project.
- In its current implementation, it is being extensively run on distributed resources to fulfill the needs of an ever-growing number of analyses.
- The large amount of legacy code is getting more and more challenging to maintain.
- New challenges have pushed the experiment to embark on a major code modernization effort.
  - Main focus on increased flexibility, performance optimization, parallel processing.
  - Migration carried on in steps, every step thoroughly validated against the old code.
- The status today is an almost complete detector simulation, capable of running in multi-thread mode.
  - The few missing parts of code are being worked on as we speak.