Contribution ID: **2**   Type: **not specified**

New and future developments in MadAnalysis 5 for LHC recasting

Monday, 15 February 2021 13:45 (20 minutes)

In this contribution, we report about the latest developments in MadAnalysis 5 relevant for recasting studies. The software is now equipped with its own fast detector simulator (called the MA5-SFS framework) based on efficiency and smearing functions, offering thus users an option different from and more light-weight than Delphes 3 to deal with the detector effects. Implementations of 4 Run 2 ATLAS and CMS searches are currently available and validated. In addition, this machinery is currently being extended to deal with long-lived particles and preliminary results are already available. On the other hand, we have extended the code so that signal regions can be combined in the limit setting procedure, using correlations and likelihood profiles whenever they are provided by the LHC collaborations. In addition, extrapolations to different luminosities and the treatment of the theory and experimental errors are now possible as well.

Primary author: ARAZ, Jack (IPPP - Durham University)

Presenter: ARAZ, Jack (IPPP - Durham University)

Session Classification: Workshop talks