



Contribution ID: 82

Type: **Parallel Talk**

## Compressed SUSY searches with the Recursive Jigsaw Reconstruction

*Thursday, July 6, 2017 4:30 PM (15 minutes)*

The Recursive Jigsaw reconstruction technique provides a powerful way to tackle challenging SUSY final states with multiple missing particles. By altering the input “decay tree” we demonstrate a new approach to considering compressed SUSY signatures from a variety of different sources. The imposition of this decay tree provides a clear way to define which objects are associated with an ISR system and those which are candidate decay products of the SUSY system. From this choice a set of variables emerge, providing a method to distinguish compressed cases from the pernicious standard model backgrounds present.

We introduce this new approach, comparing it briefly to other methods used to probe this phase-space and demonstrate its power through application to several compressed final states. We will further touch on the applicability of this same method to other physics processes where the use of conventional kinematic handles breaks down.

### Experimental Collaboration

**Primary author:** JACKSON, Paul Douglas (University of Adelaide)

**Presenter:** JACKSON, Paul Douglas (University of Adelaide)

**Session Classification:** Higgs and new physics

**Track Classification:** Higgs and New Physics