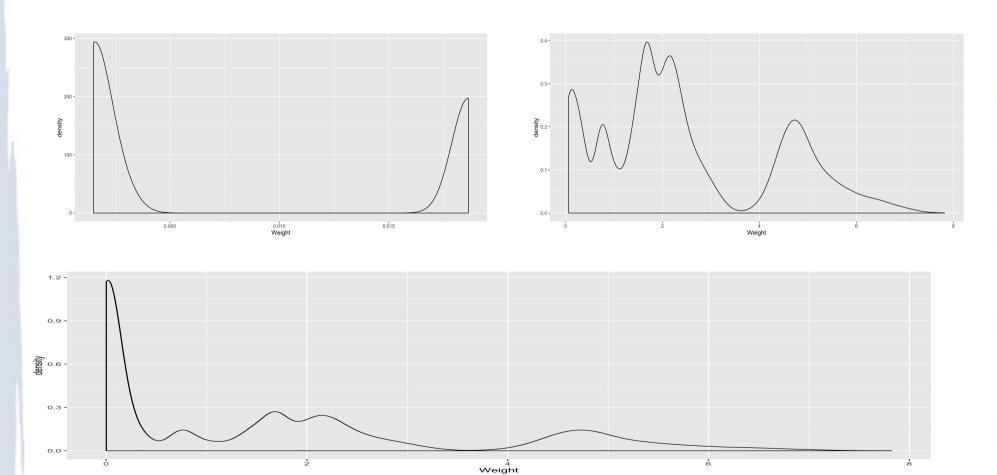
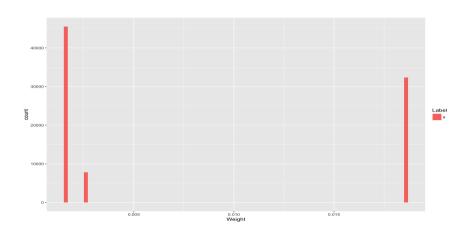
EDA

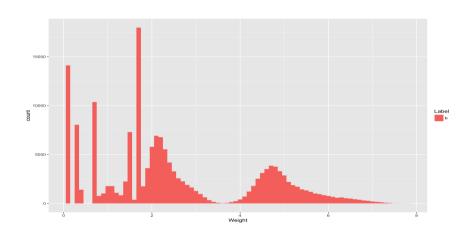


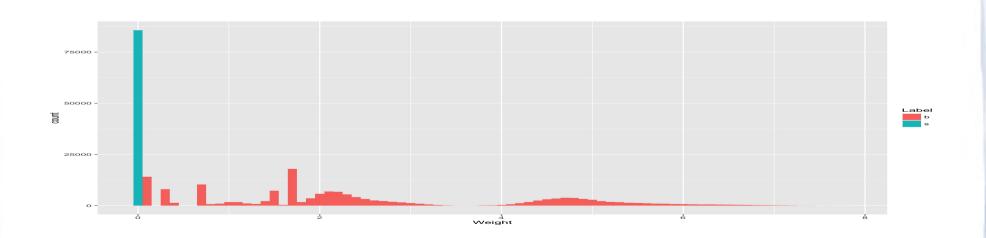
S & B Density



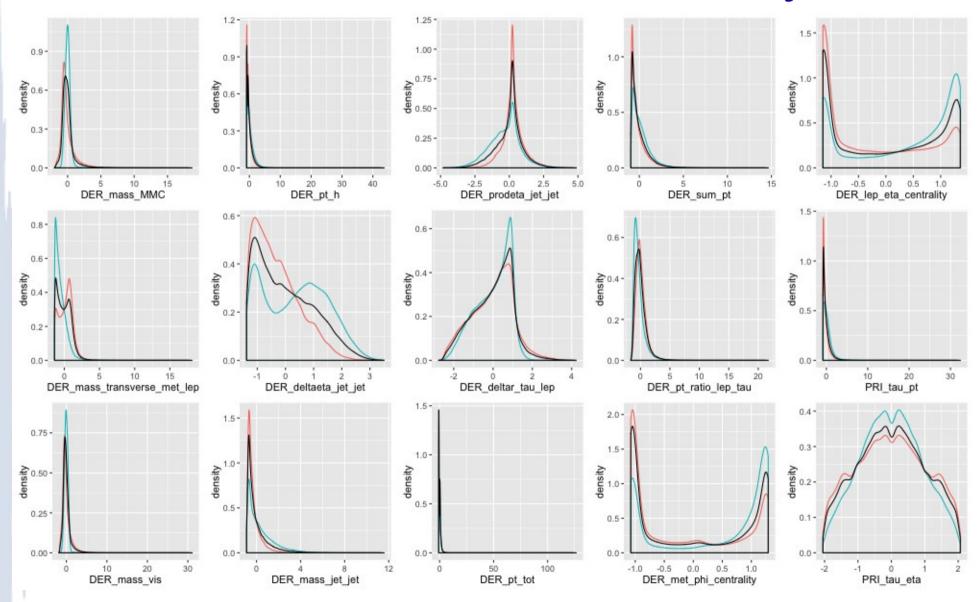
S & B Histogram



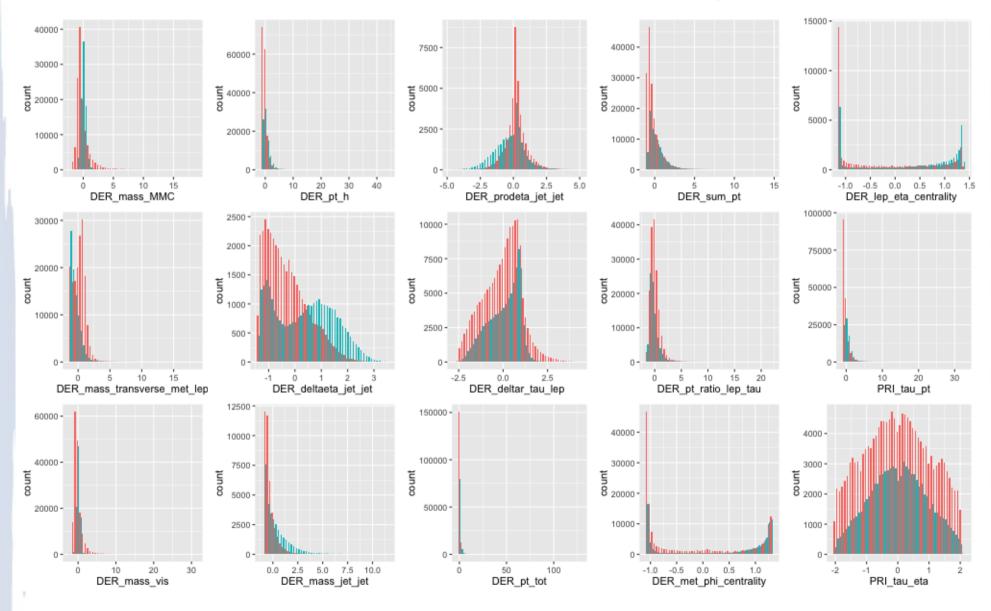




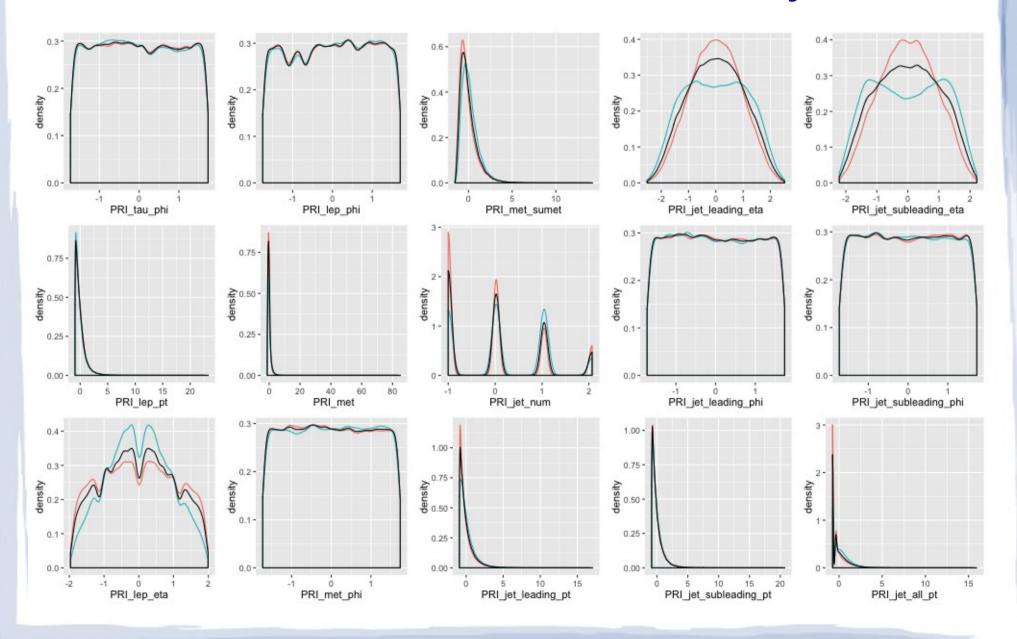
First 15 Variables Density



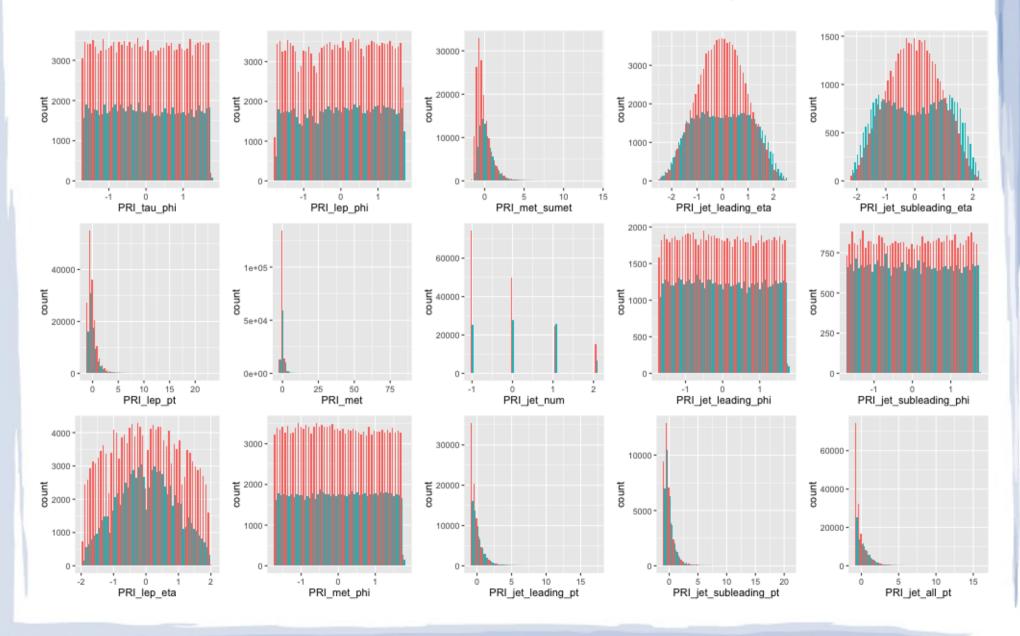
First 15 Variable Histogram



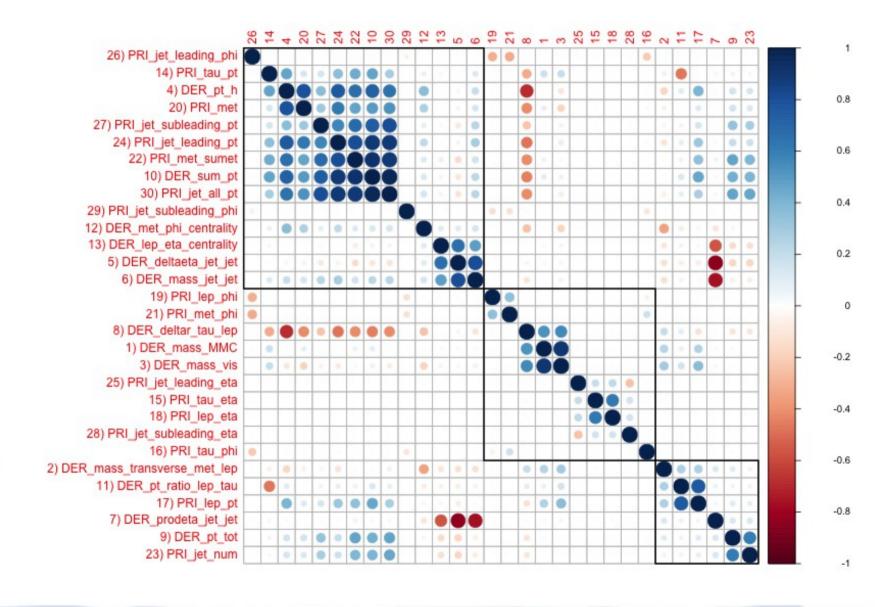
Last 15 Variables Density



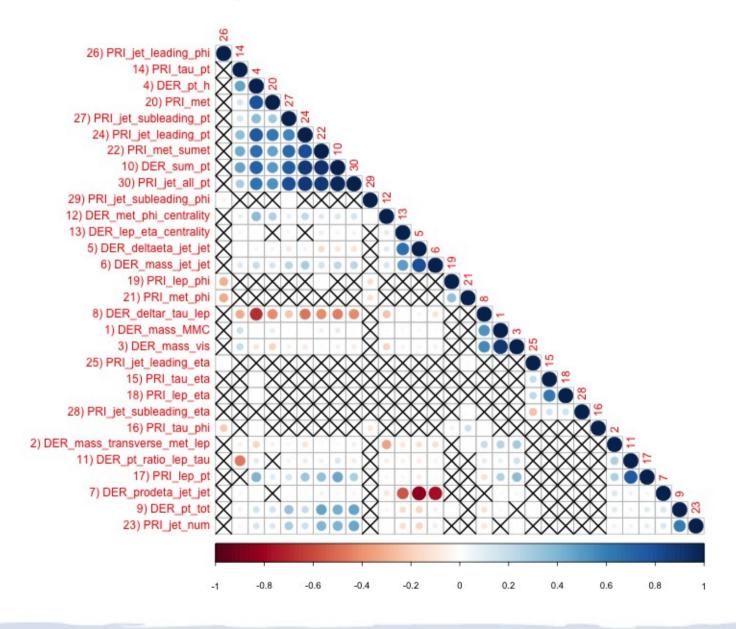
Last 15 Variables Histogram



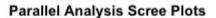
Correlation

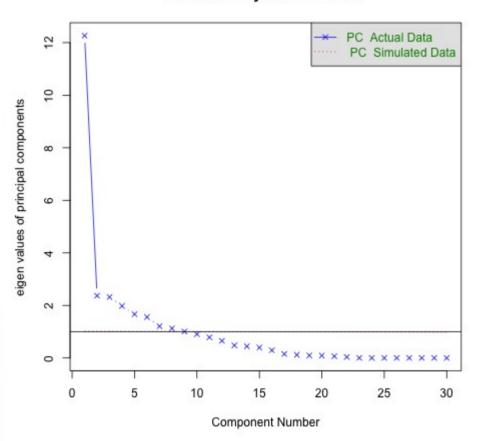


Significant Correlation

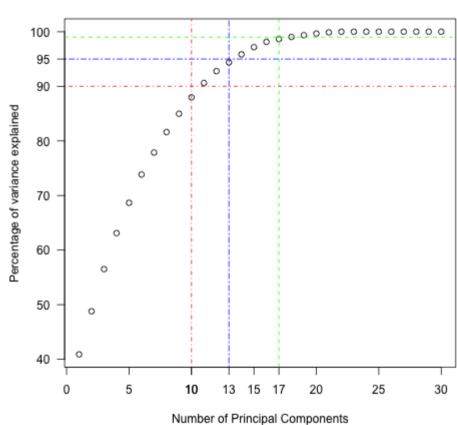


PCA

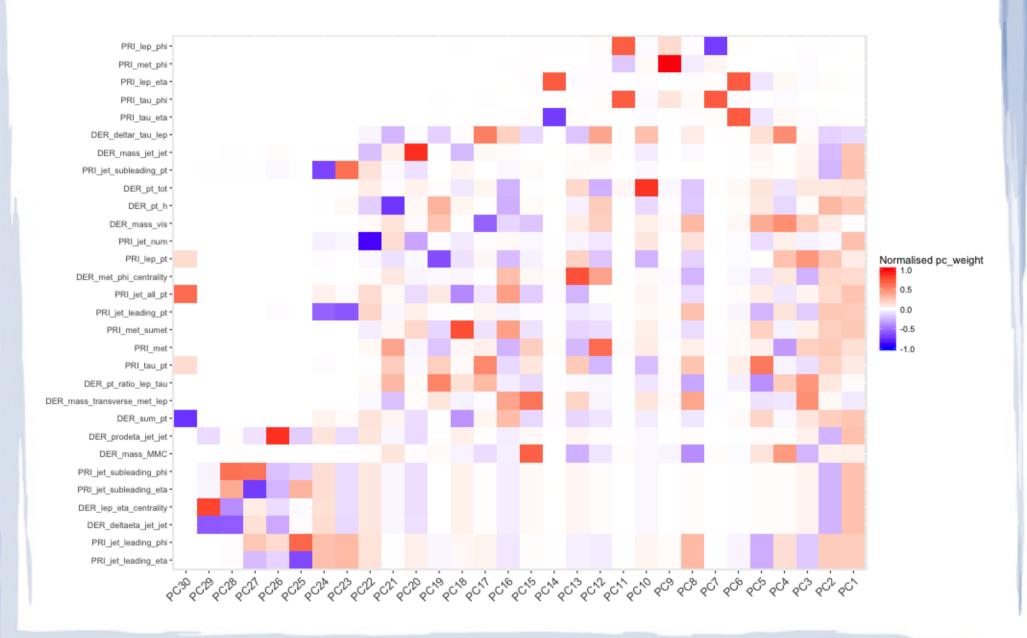




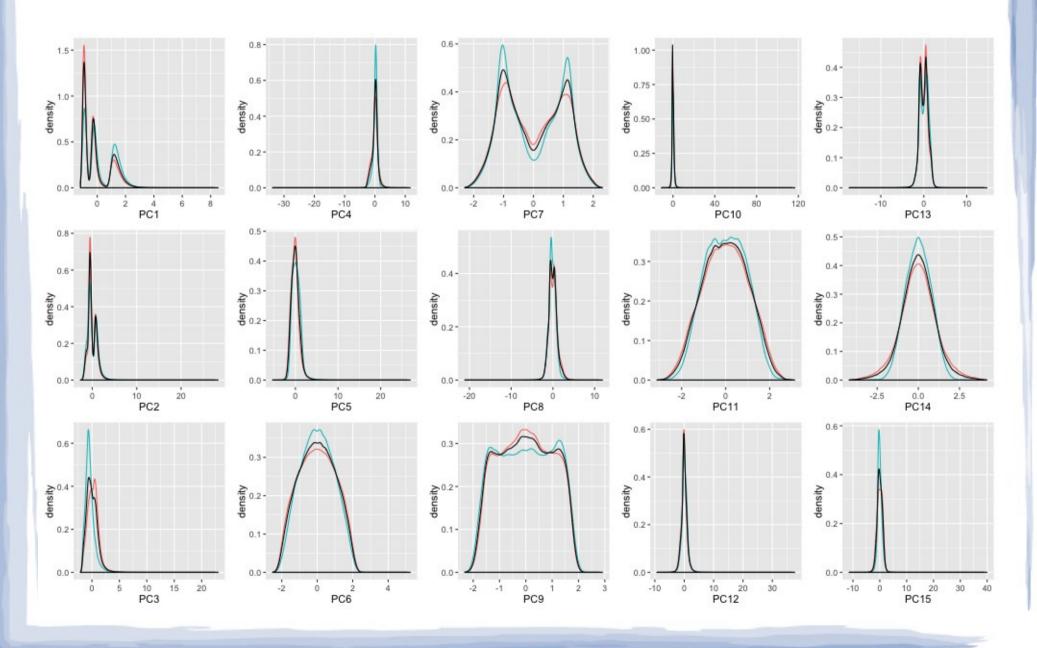
PCA



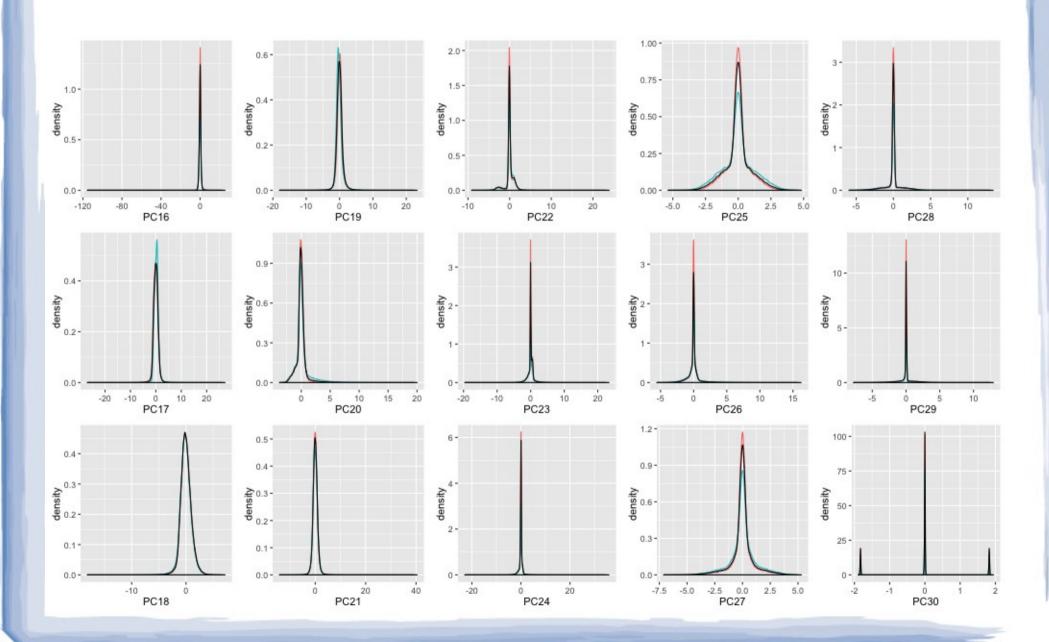
PCA Vectors



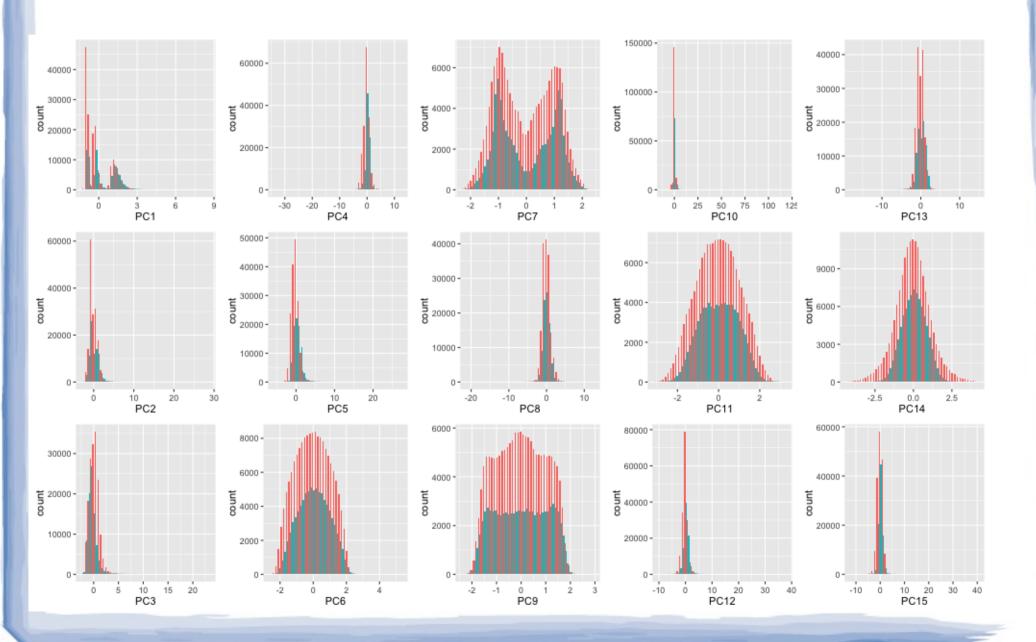
S & B Density for first 15 PCA components



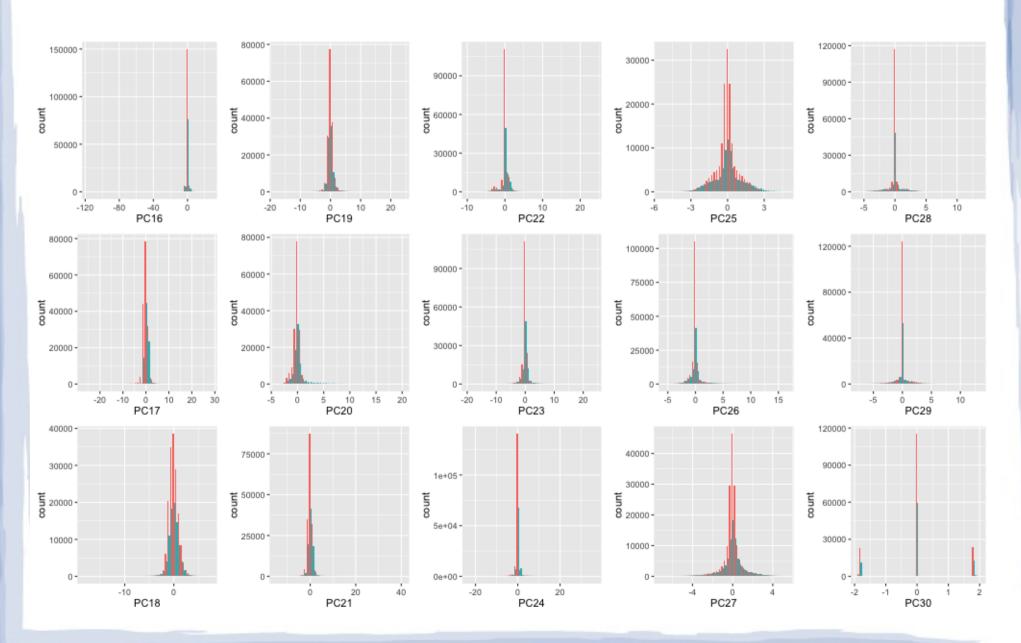
S & B Density for last 15 PCA components



S & B Histogram for first 15 PCA components



S & B Histogram for last 15 PCA components



Undefined Variables

```
DER mass MMC
   15.2456
            24 PRI_jet_leading_pt
   39.9652
   39.9652
            25
                 PRI jet leading eta
3
   39.9652
            26
4
                 PRI jet leading phi
   70.9828
               DER_deltaeta_jet_jet
5
           5
             6
   70.9828
                  DER_mass_jet_jet
   70.9828
                DER_prodeta_jet_jet
   70.9828
            13 DER_lep_eta_centrality
            27 PRI_jet_subleading_pt
   70.9828
             28 PRI jet subleading eta
10
   70.9828
```

70.9828 29 PRI_jet_subleading_phi

Undefined Variables by Jet No.

All Jets (0,1,2,3)

```
1 15.2456 1 DER mass MMC
```

No Jets(0)

```
2 39.9652 24 PRI_jet_leading_pt
3 39.9652 25 PRI_jet_leading_eta
4 39.9652 26 PRI_jet_leading_phi
```

No Jet and 1 Jet (0,1)

```
5 70.9828 5 DER_deltaeta_jet_jet
6 70.9828 6 DER_mass_jet_jet
7 70.9828 7 DER_prodeta_jet_jet
8 70.9828 13 DER_lep_eta_centrality
9 70.9828 27 PRI_jet_subleading_pt
10 70.9828 28 PRI_jet_subleading_eta
11 70.9828 29 PRI_jet_subleading_phi
```

Ideas

- Remove all Derived variables (13) + Phi Variables (5) and use SVM and Neural Networks to find structures
- Use jet number tag to remove Undefined Variables