

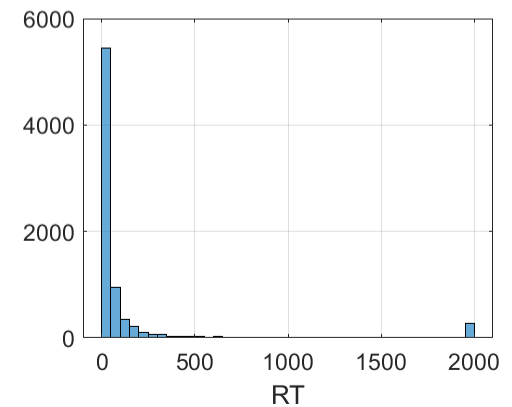
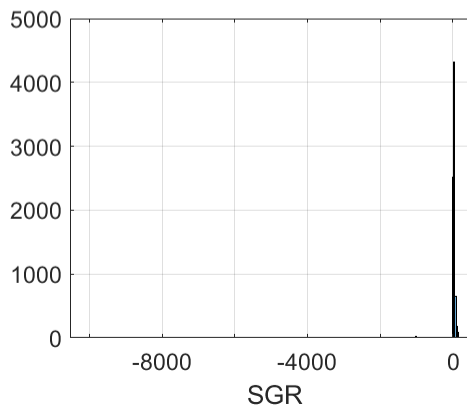
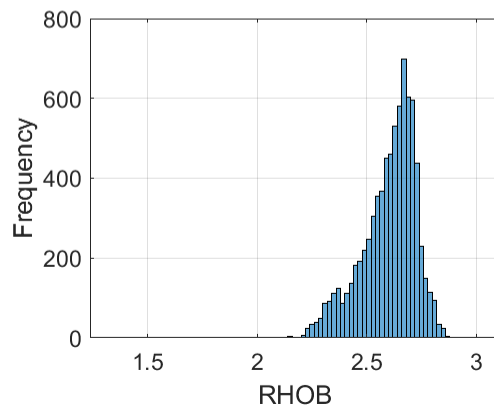
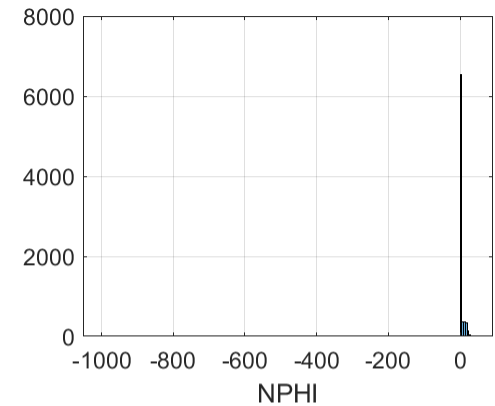
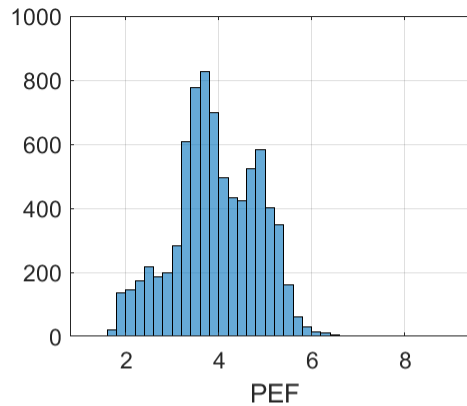
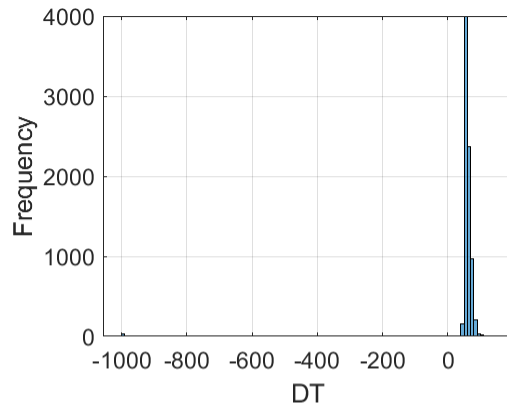


# Data Clustering in MATLAB

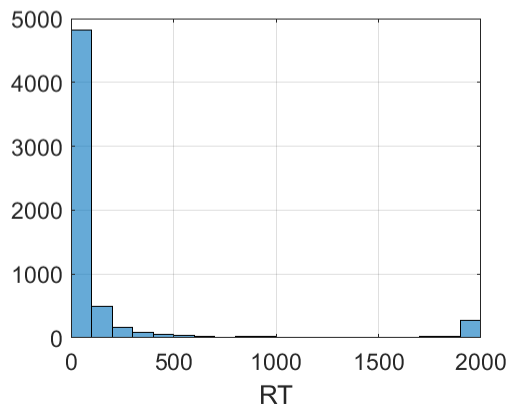
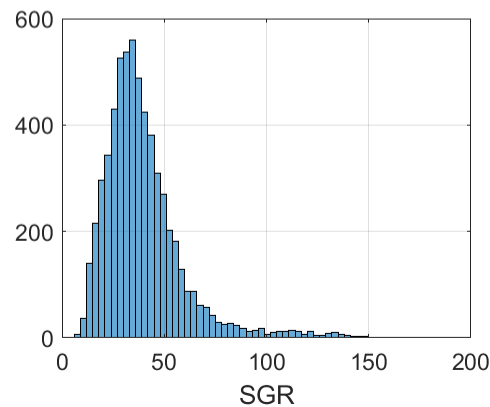
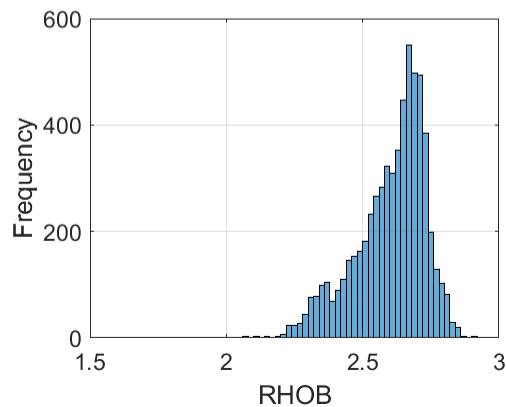
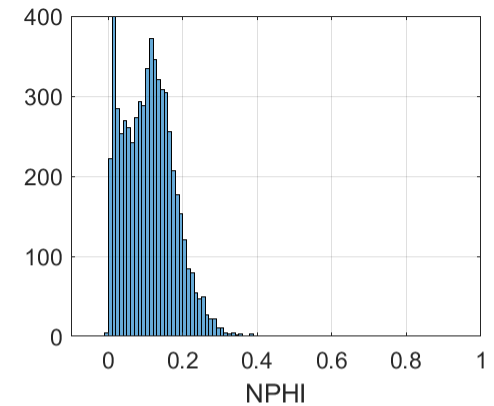
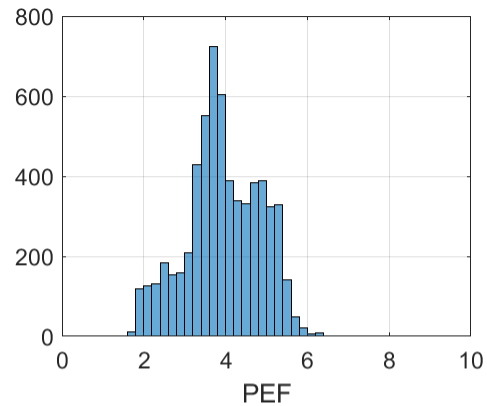
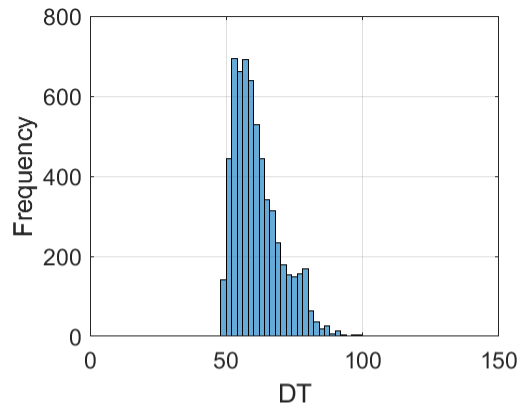
Alireza Shahin  
November 2021

- ☐ Data QC
- ☐ Remove nulls
- ☐ Remove outliers
- ☐ Transforming data to [0 1]
- ☐ Scatter plots
- ☐ Density plots
- ☐ Kmean clustering
- ☐ Spectral clustering
- ☐ Gaussian mixture (GM) clustering
- ☐ C-fuzzy clustering
- ☐ DBSCAN clustering
- ☐ Self Organized Map (SOM) clustering
- ☐ Summary

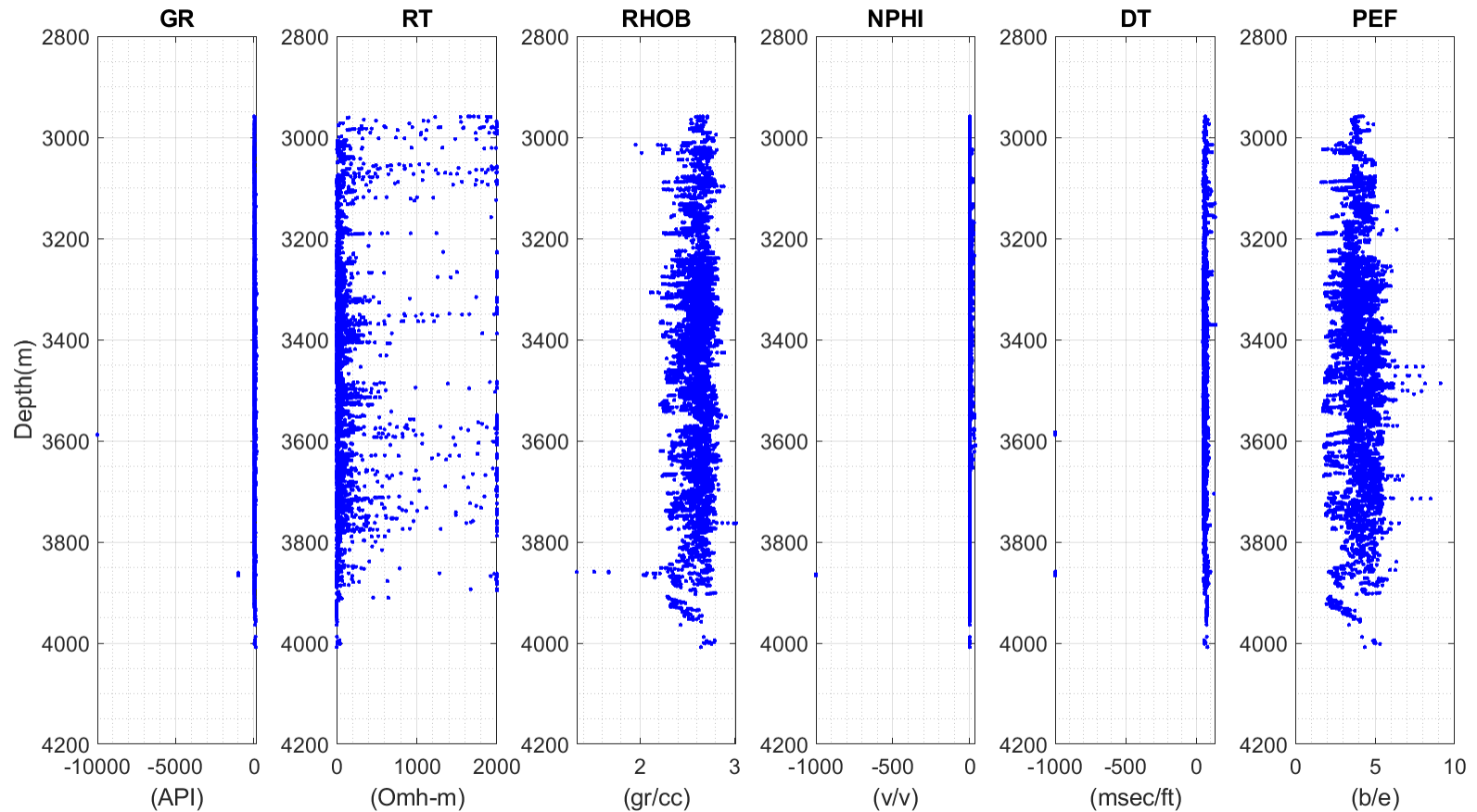
# Data with nulls and outliers



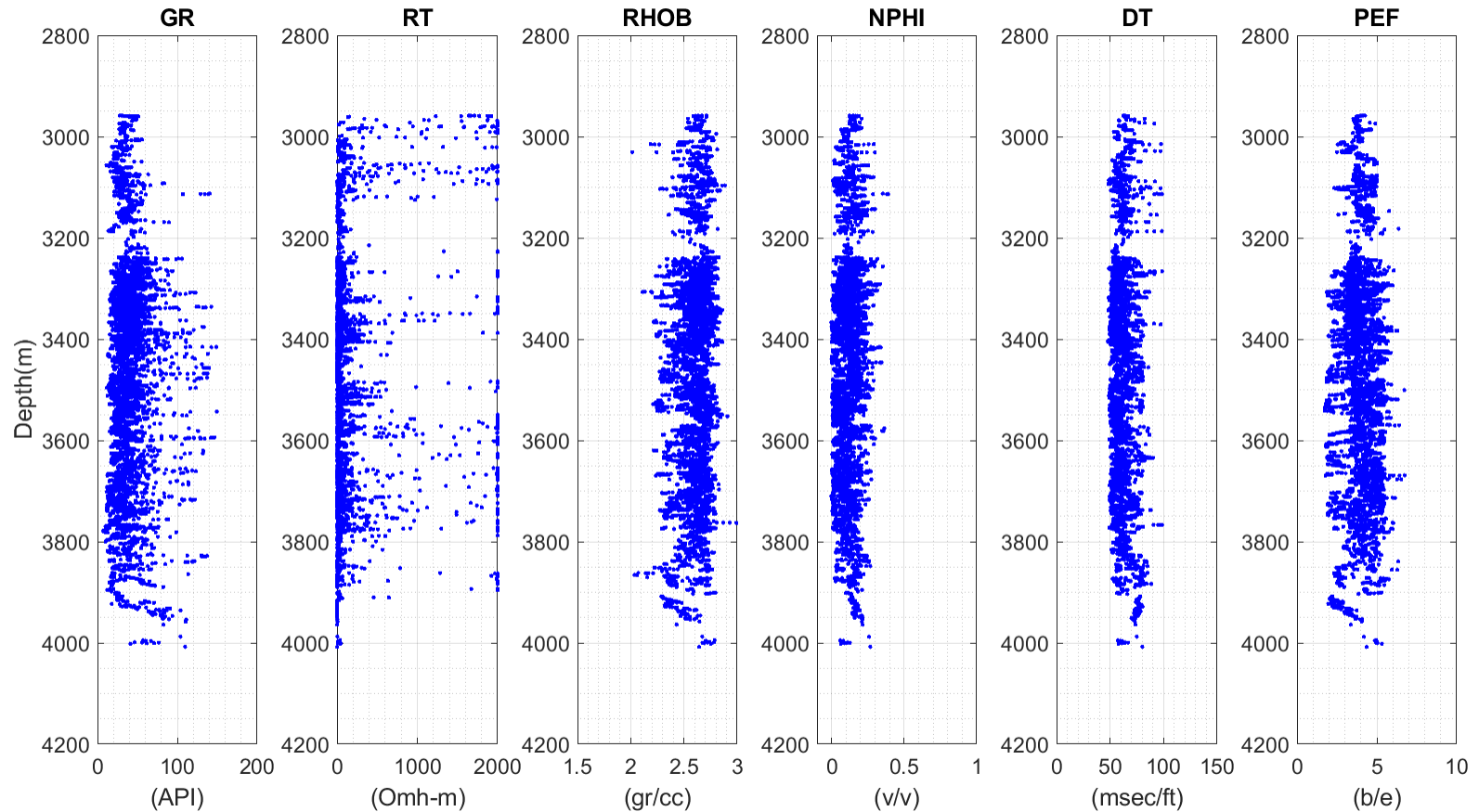
# Data after removing nulls and outliers



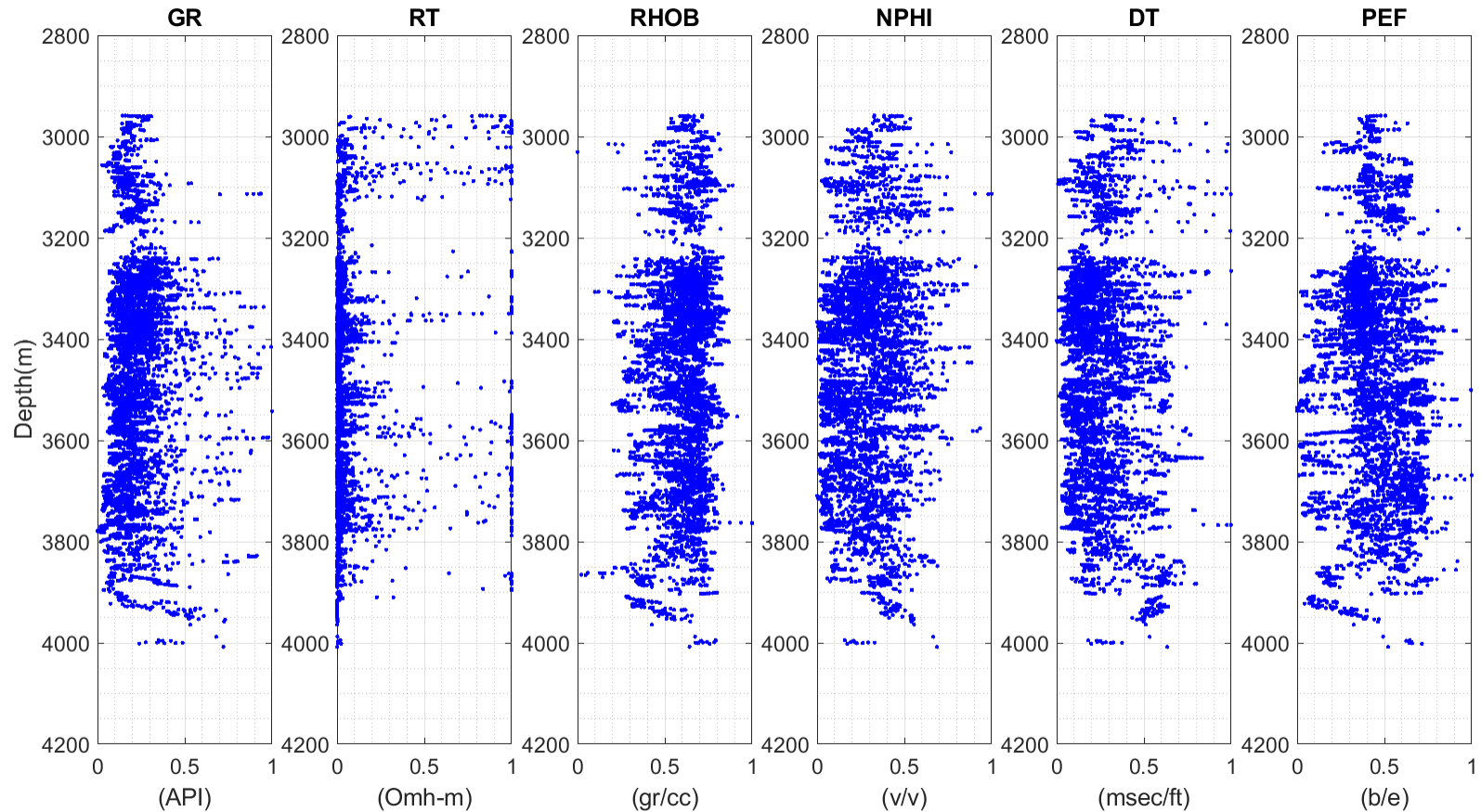
# Data with nulls and outliers



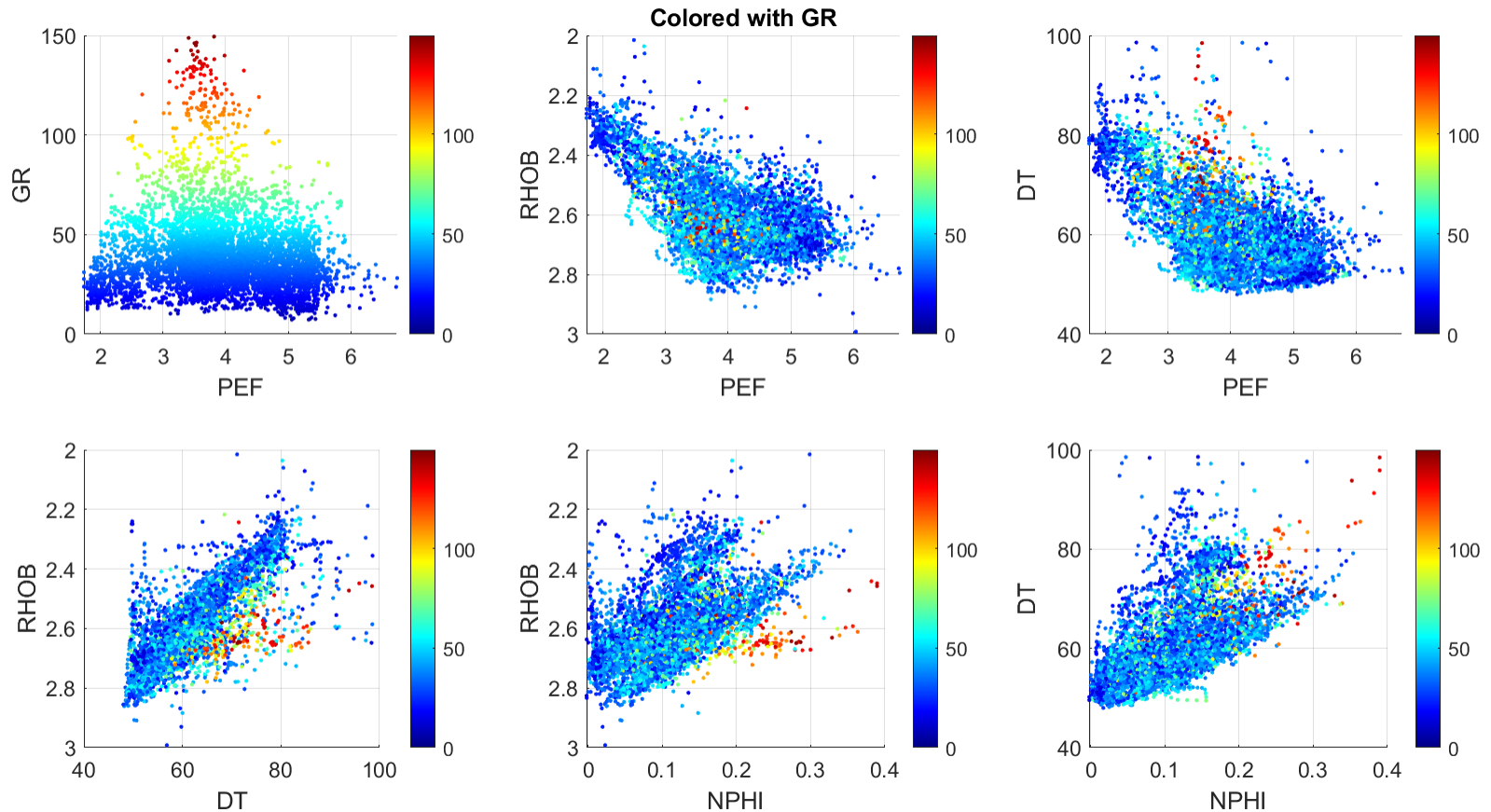
# Data after removing nulls and outliers



# Data after transformation [0 1]

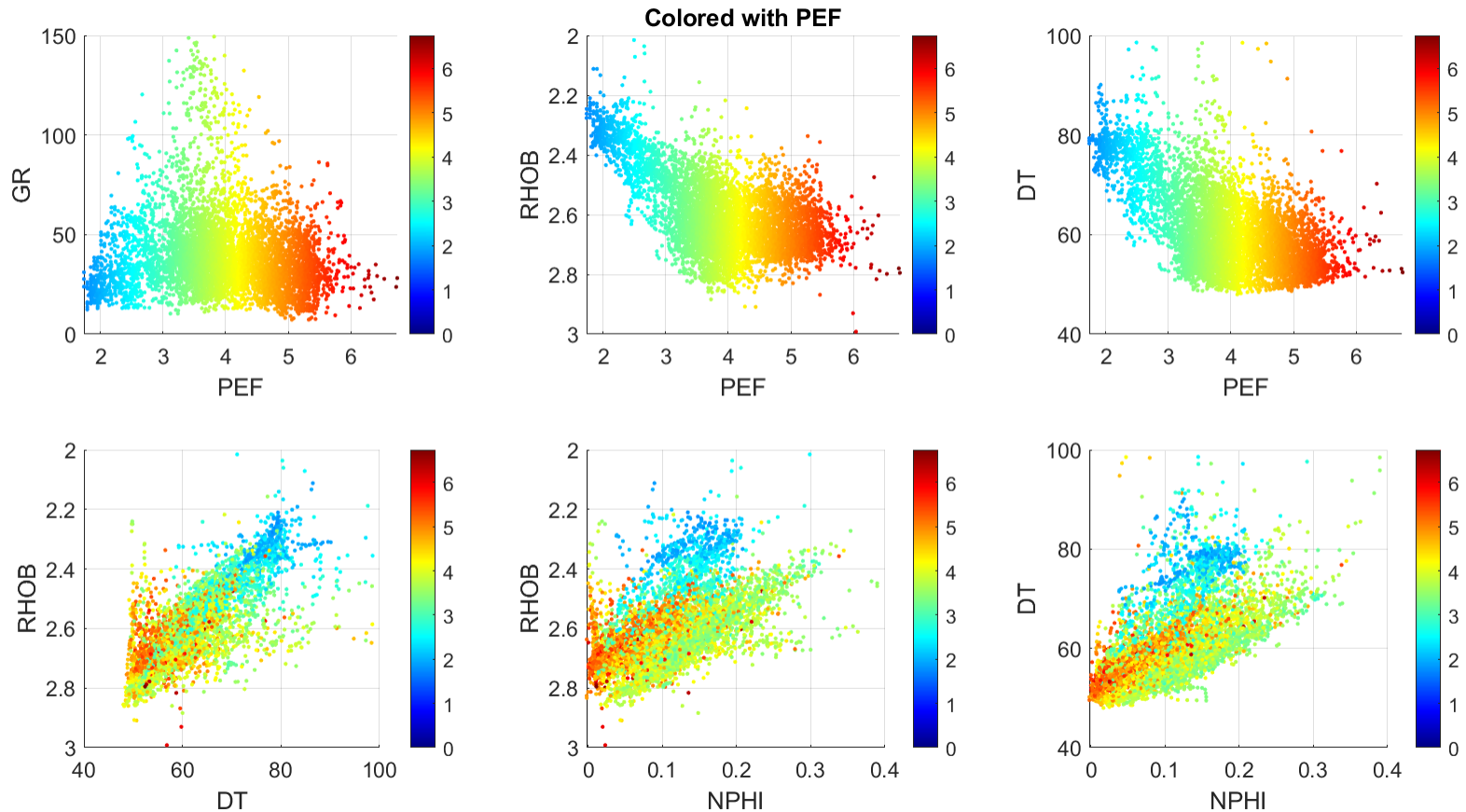


# Scatter Plots (Colored with GR)

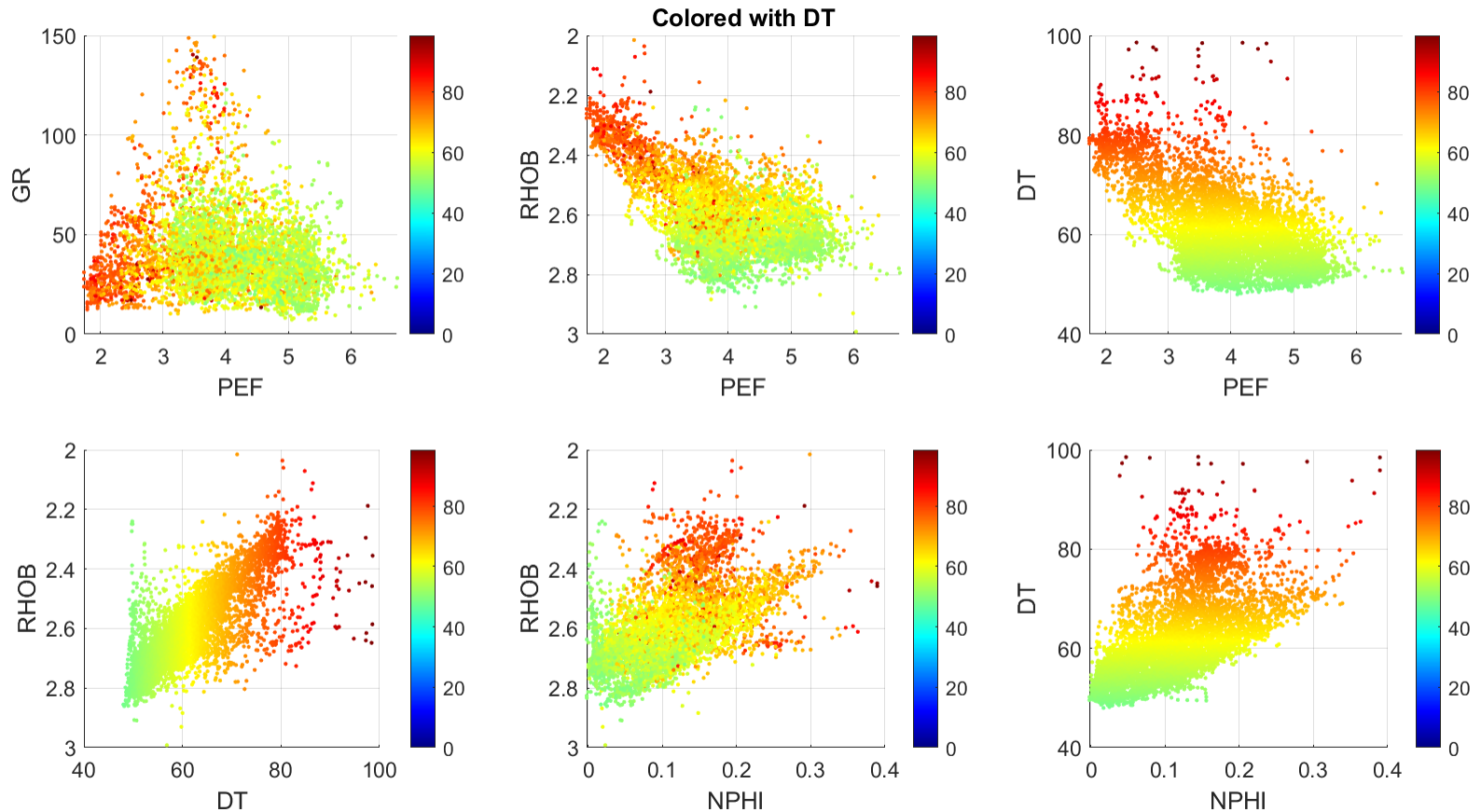




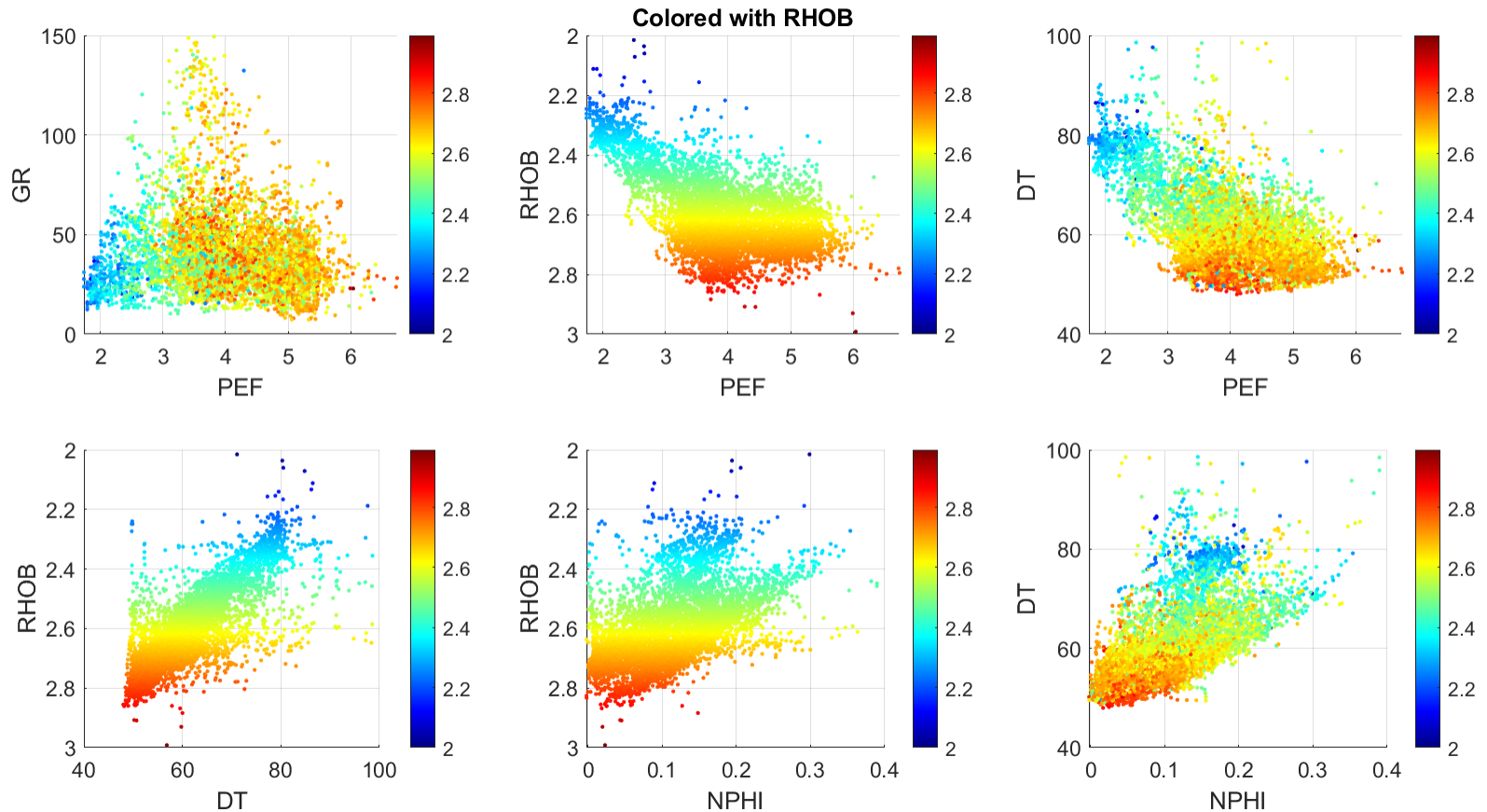
# Scatter Plots (Colored with PEF)



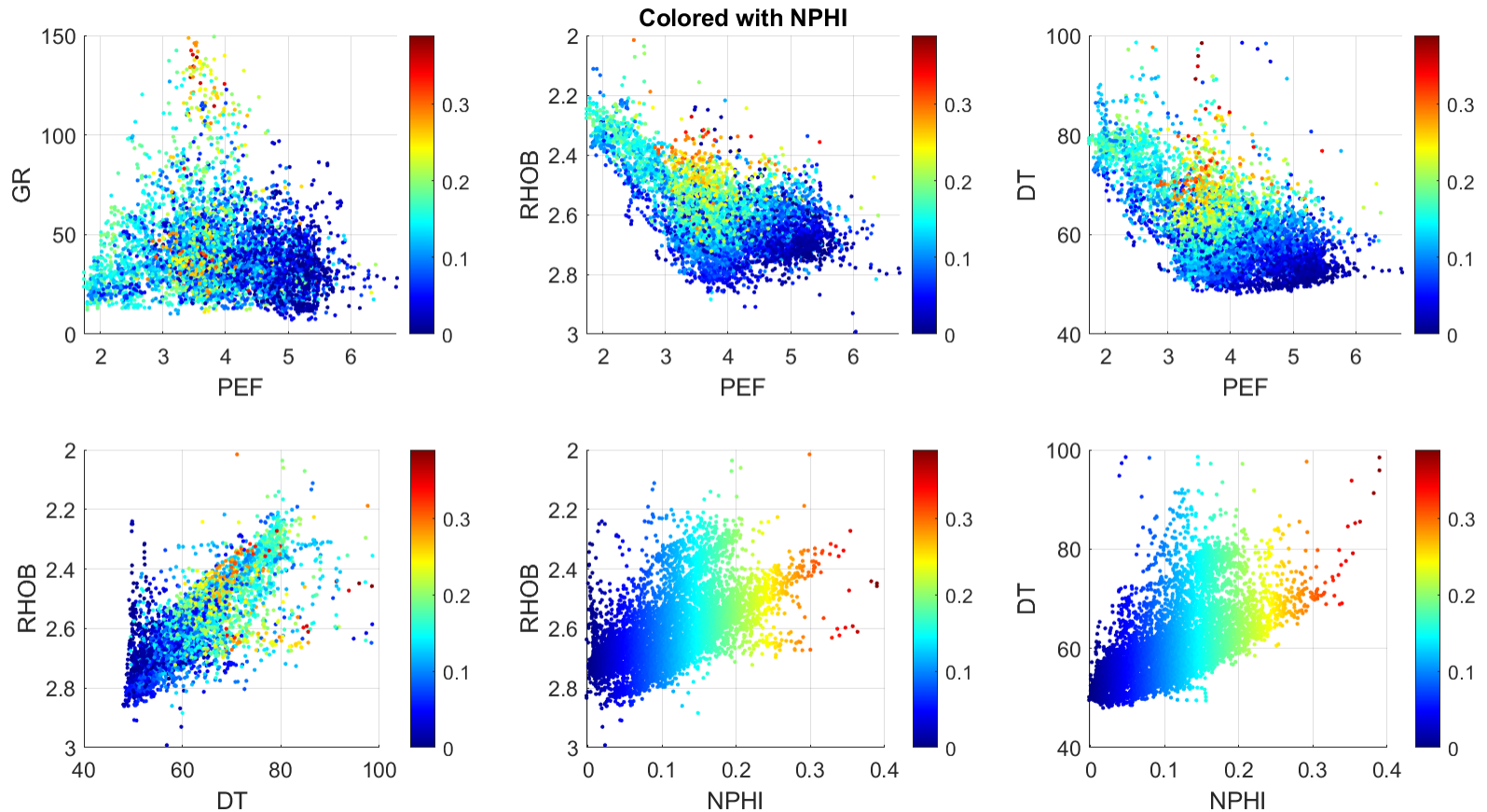
# Scatter Plots (Colored with DT)



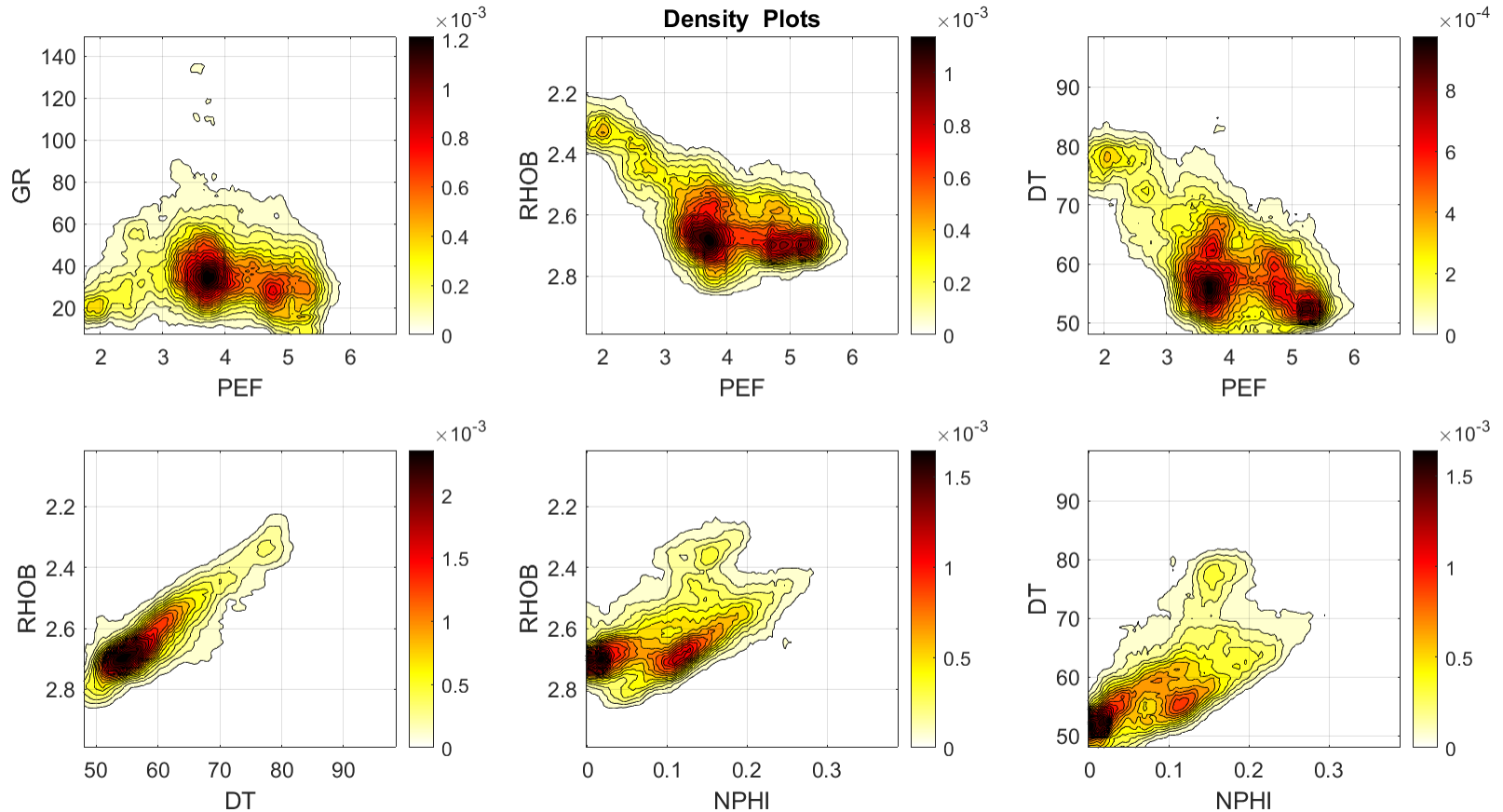
# Scatter Plots (Colored with RHOB)



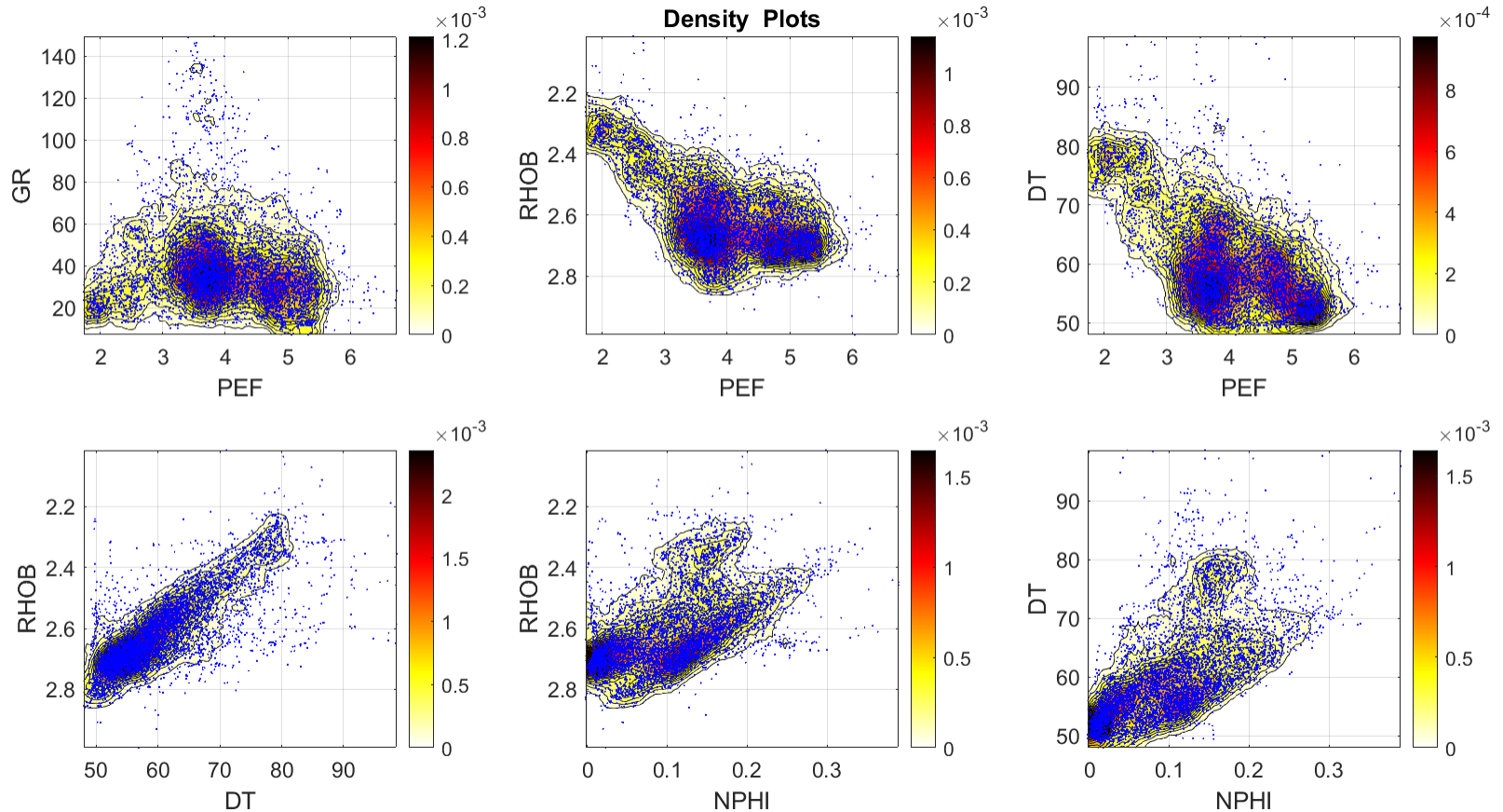
# Scatter Plots (Colored with NPHI)



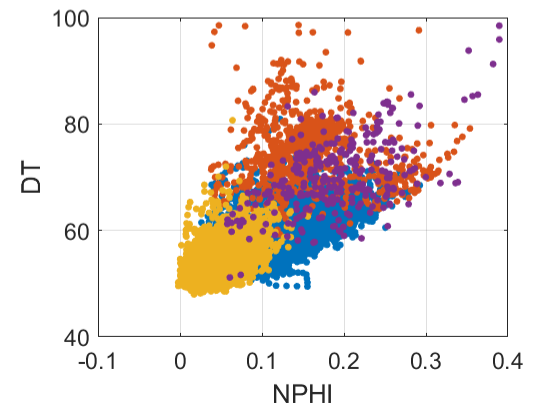
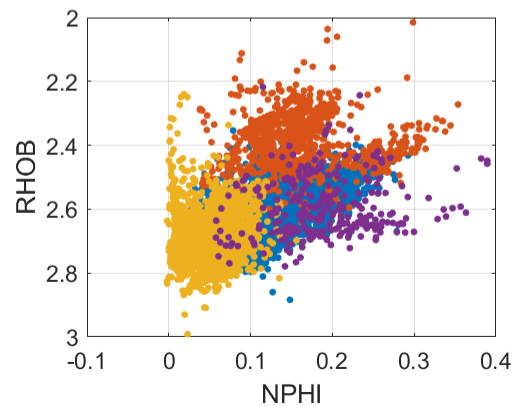
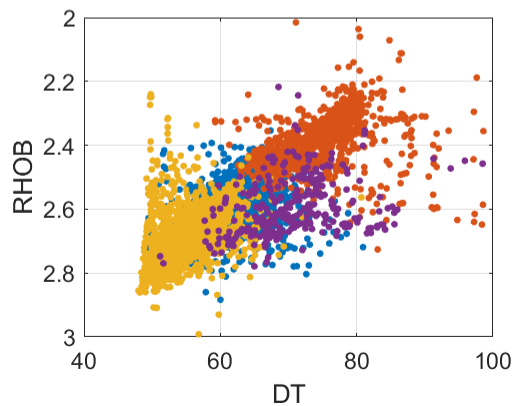
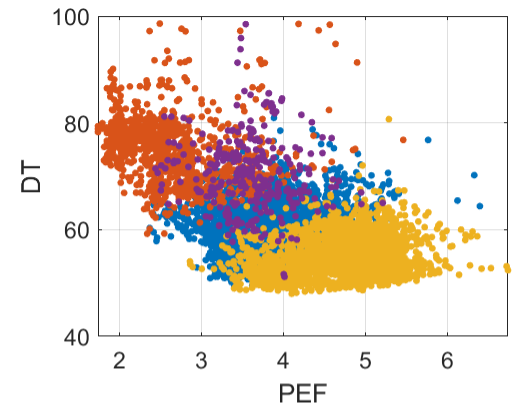
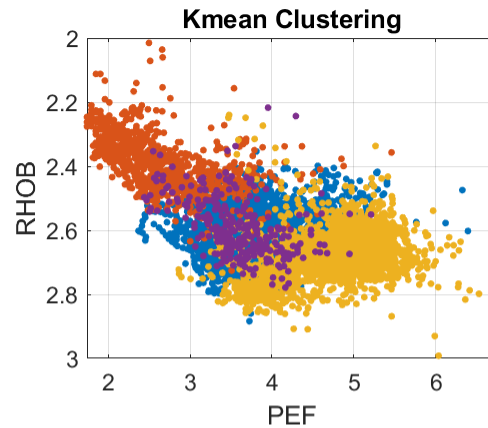
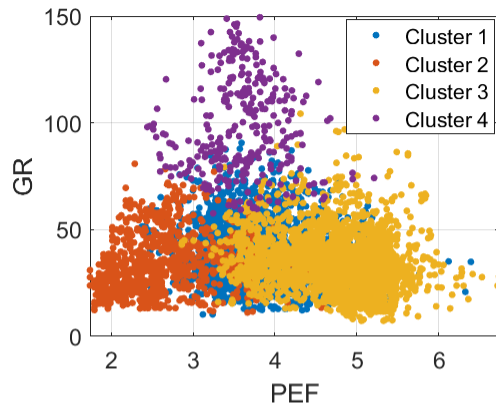
# Density Plots (Colored with Probability)



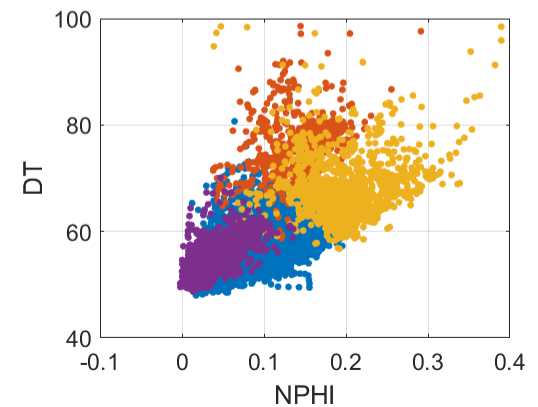
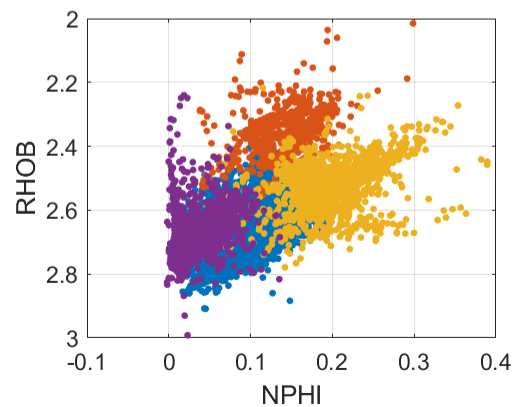
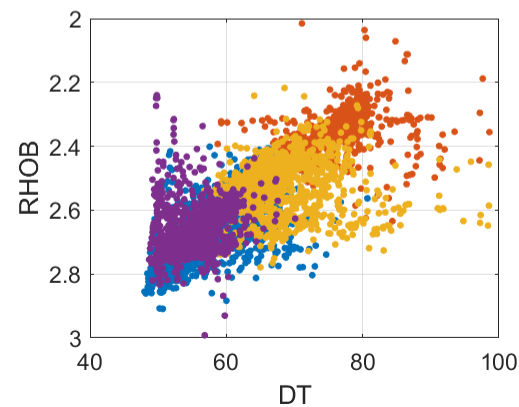
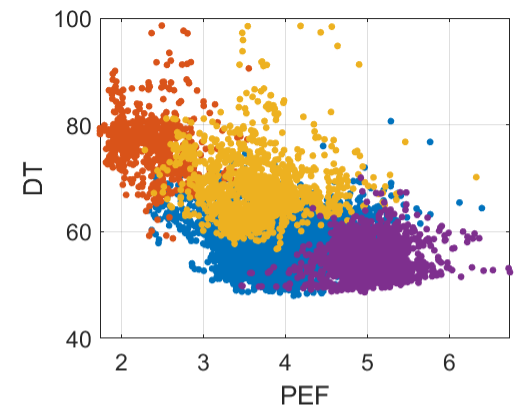
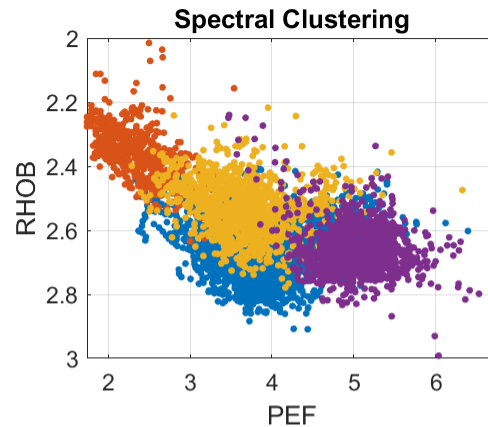
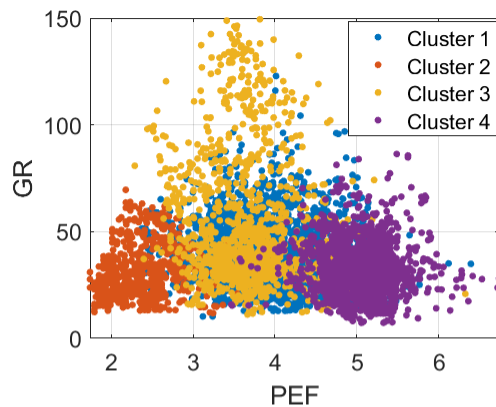
# Density Plots (Colored with Probability)



# Kmean clustering

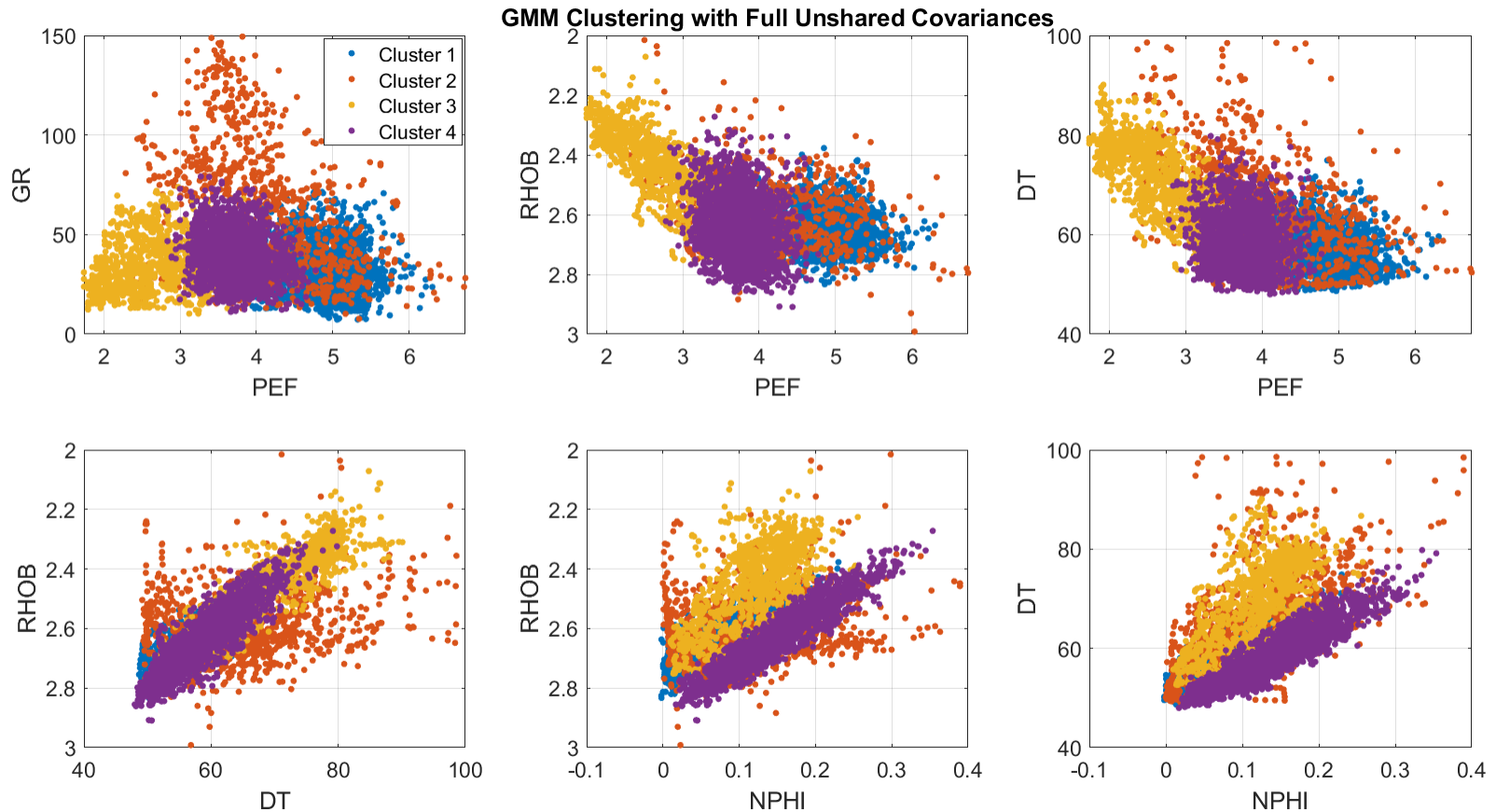


# Spectral clustering

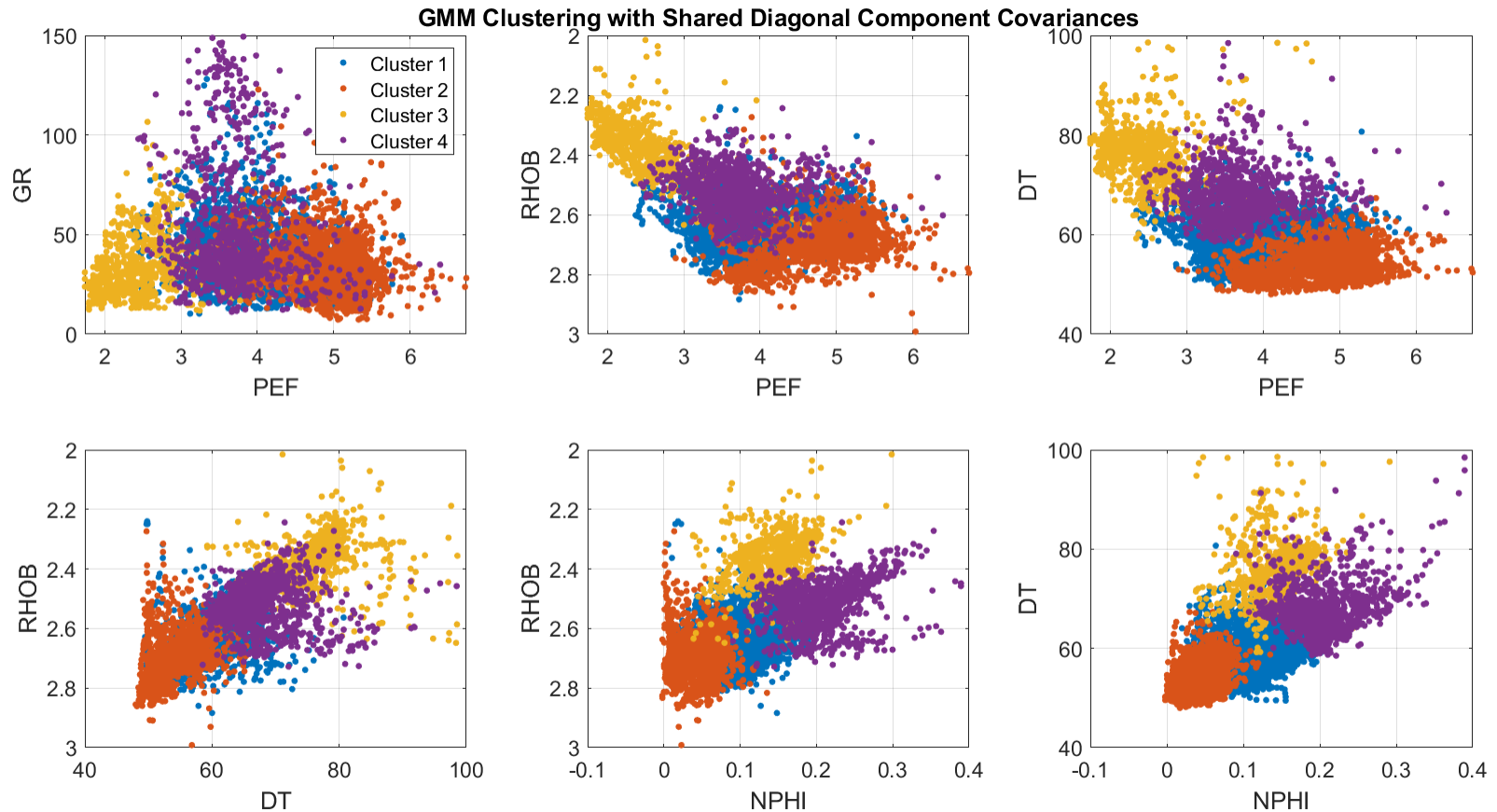




# Gaussian mixture clustering (unshared)



# Gaussian mixture clustering (shared)



# C-fuzzy clustering



# DBSCAN clustering



# Self Organized Map (SOM) clustering



# Summary

