

Project Campione

Roller Drive System Diagnostics Using Data Analytics



A presentation by IMS International BV

Your partner in Integrated Asset and Maintenance Management Solutions

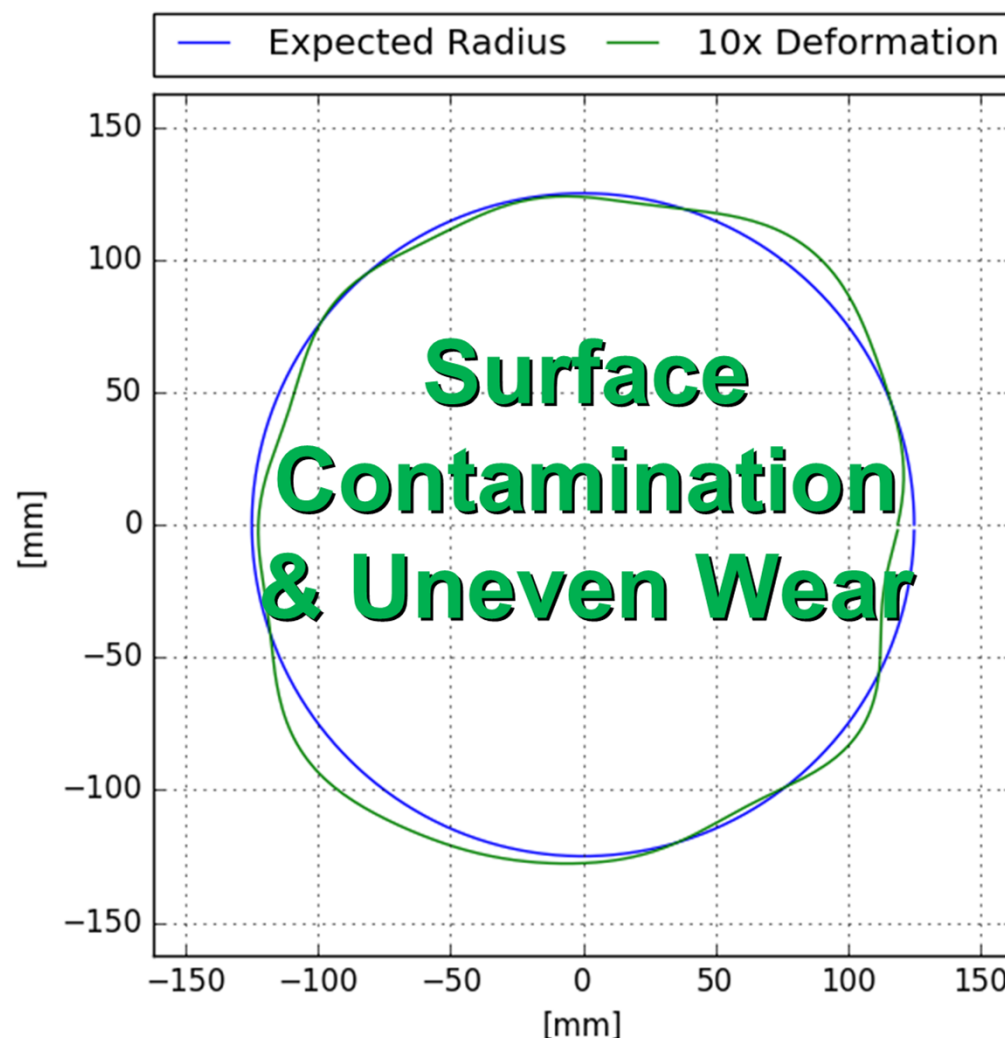
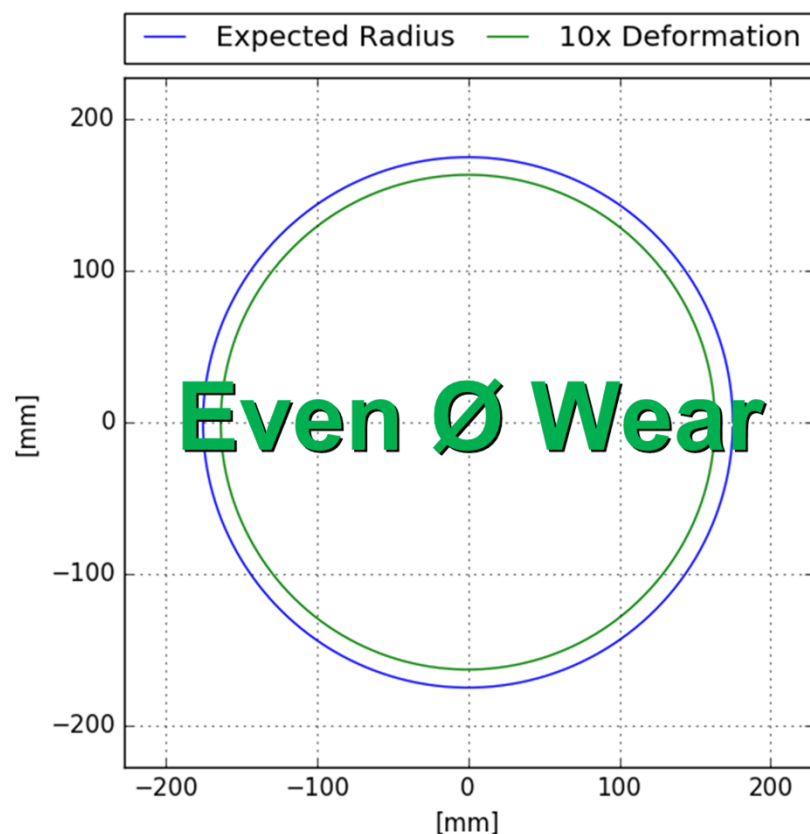
Objectives

- Verify the usability of '**plant data**' to determine '**roller health**' in terms of:
 - Roller Wear or Ø Re-shaping
 - Roller Deformation
 - Slip and grip relative to the product (plate)
 - Roller Installation Errors & Misalignment
- Automate the 'predictive maintenance' procedures using our **Integrated Maintenance Management Solution (IMMS)**



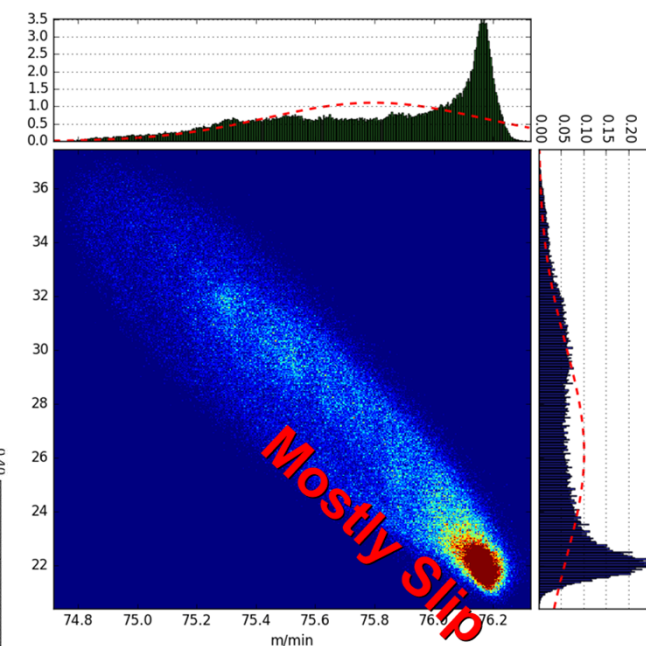
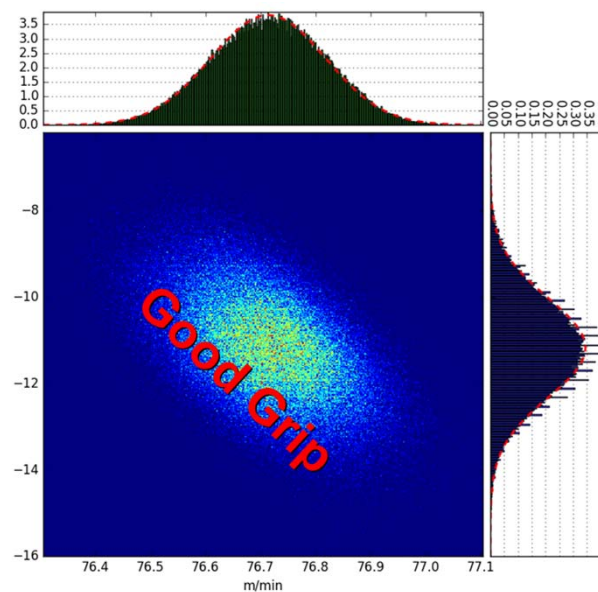
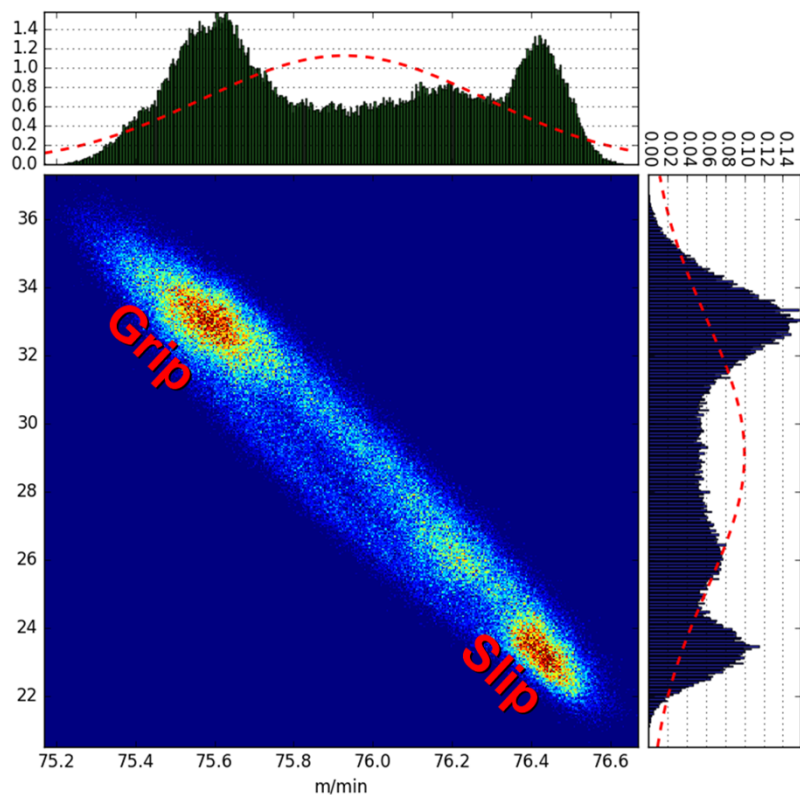
Roller Deformation

- Deformation Analysis Yields:
 - Roller Diameter $\emptyset$
 - Roller Deformation



Roller Slip and Grip on Product

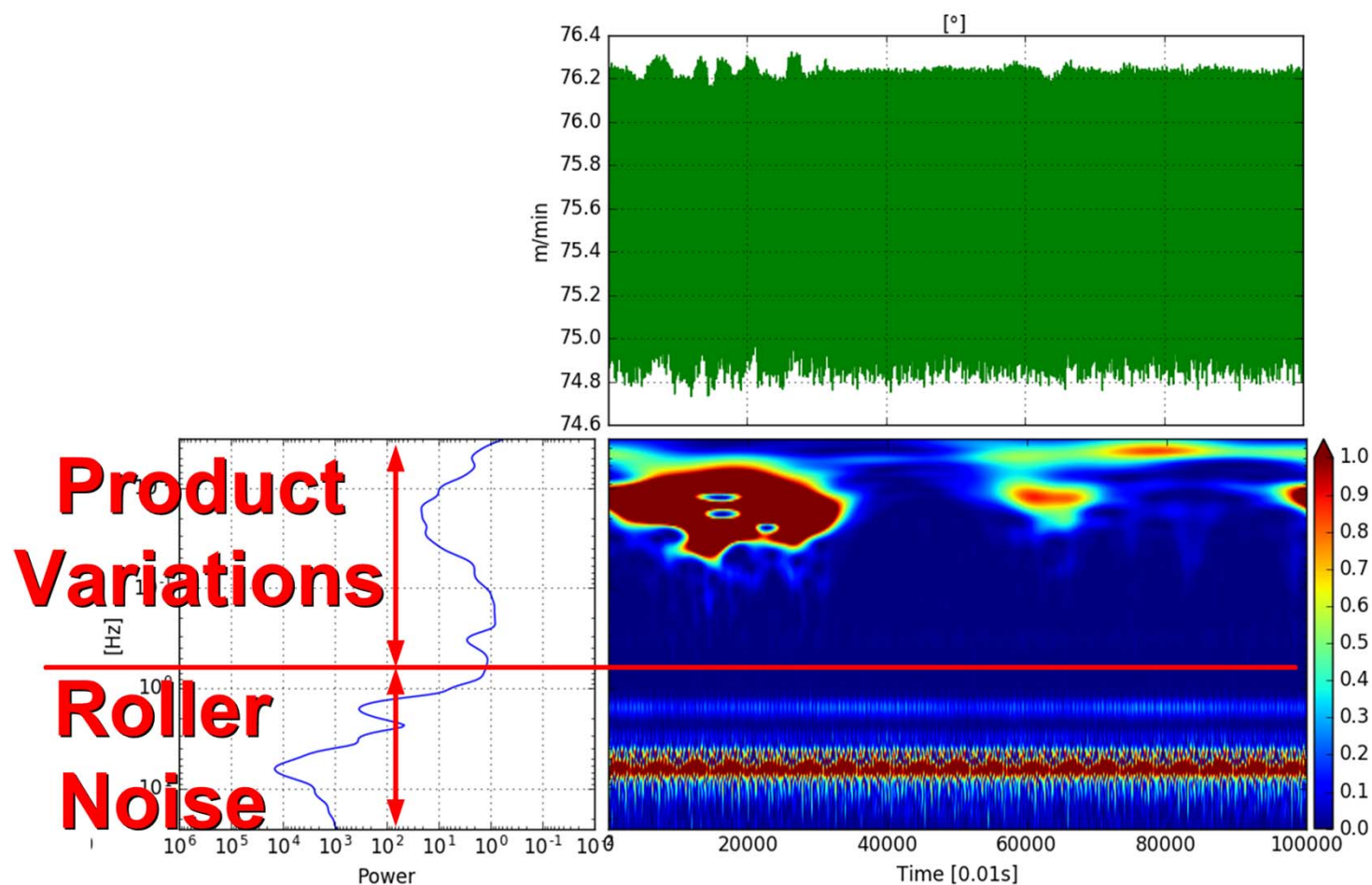
Stability Analysis - Indicates Roller Slip or Grip on the Product



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Roller Product Influence on Rollers

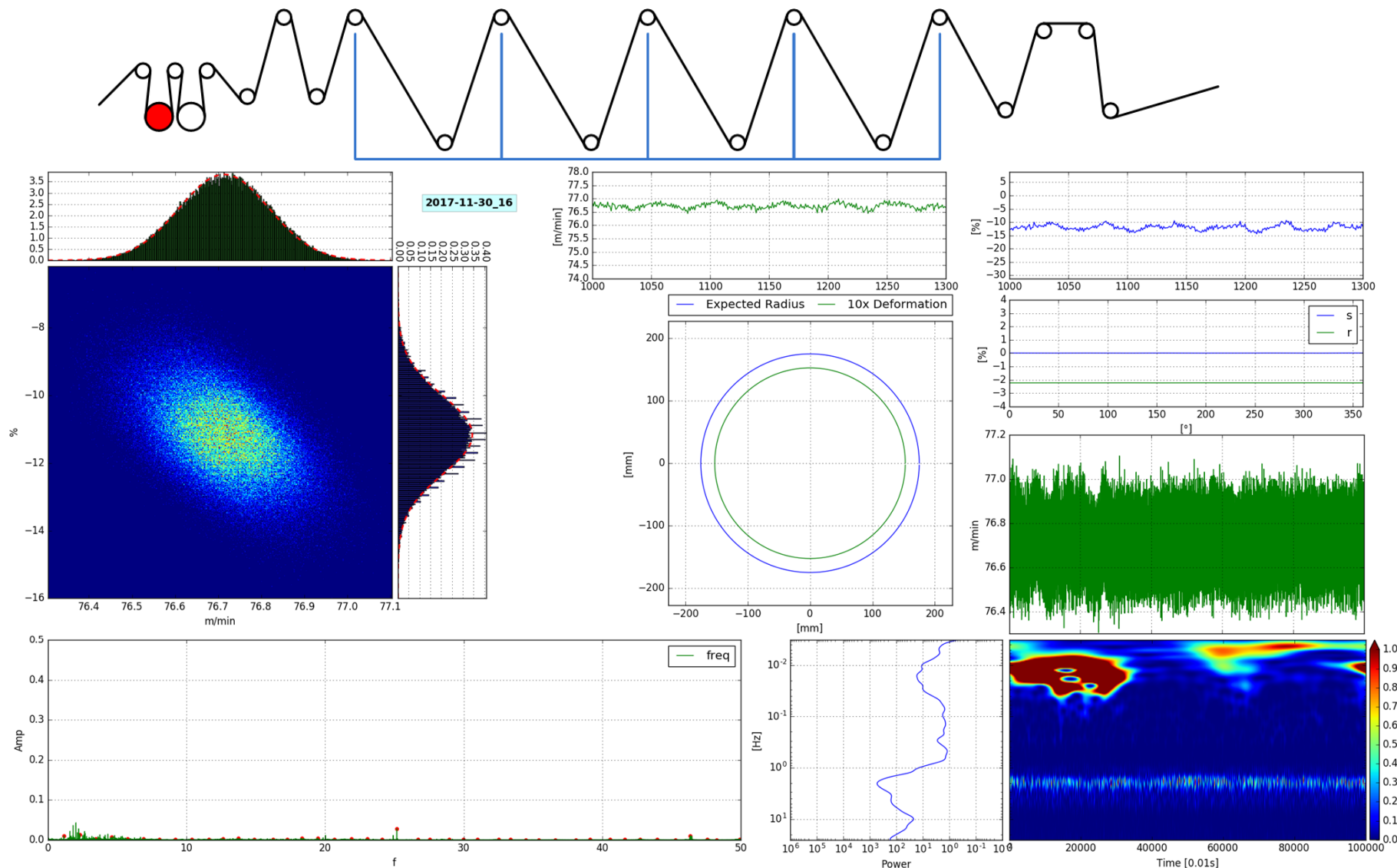
‘Long Period’ Stability Analysis – Indicates Product Influence on Roller



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Roller Analysis

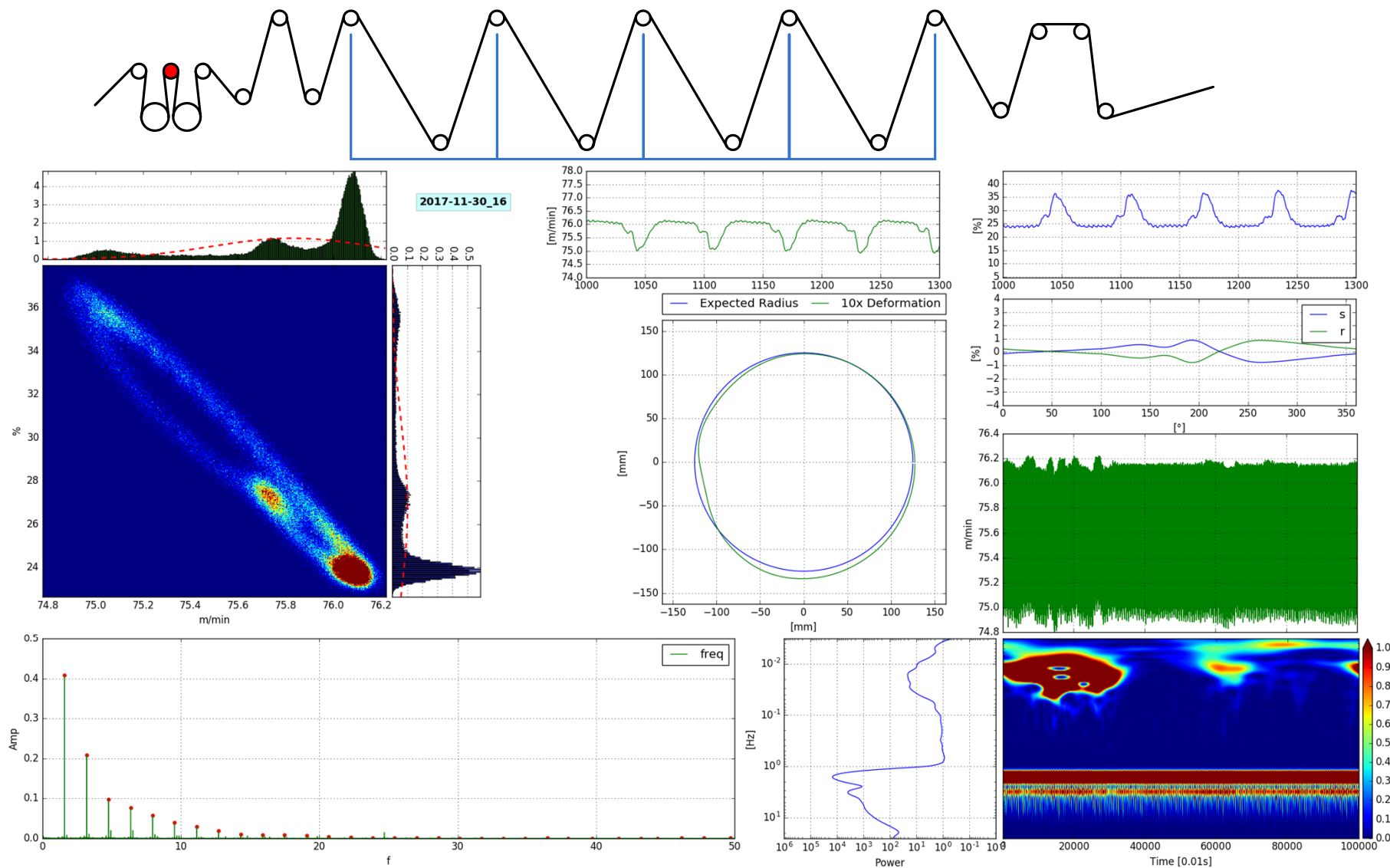
Comparison of Rollers in Plant



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Roller Analysis

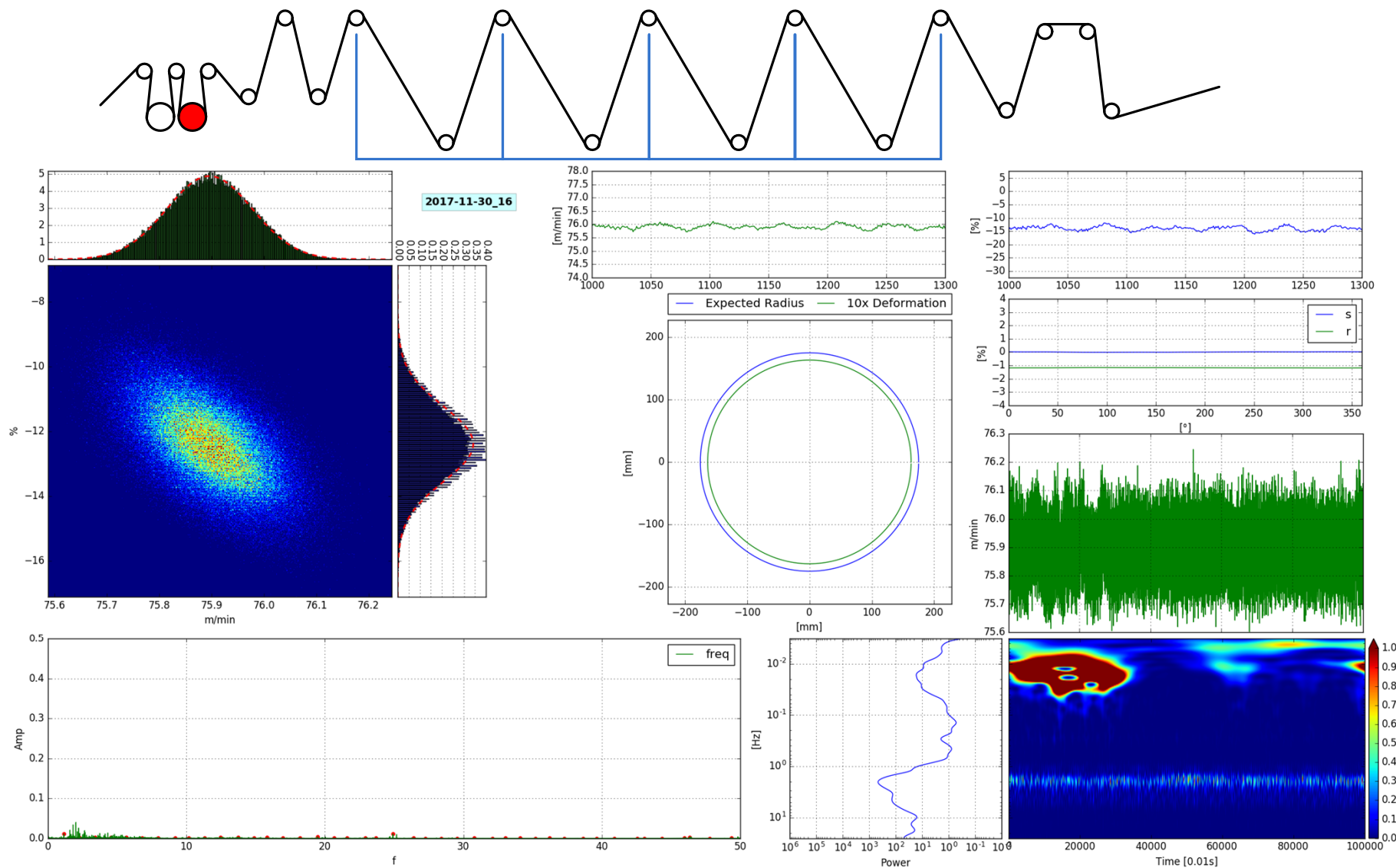
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Roller Analysis

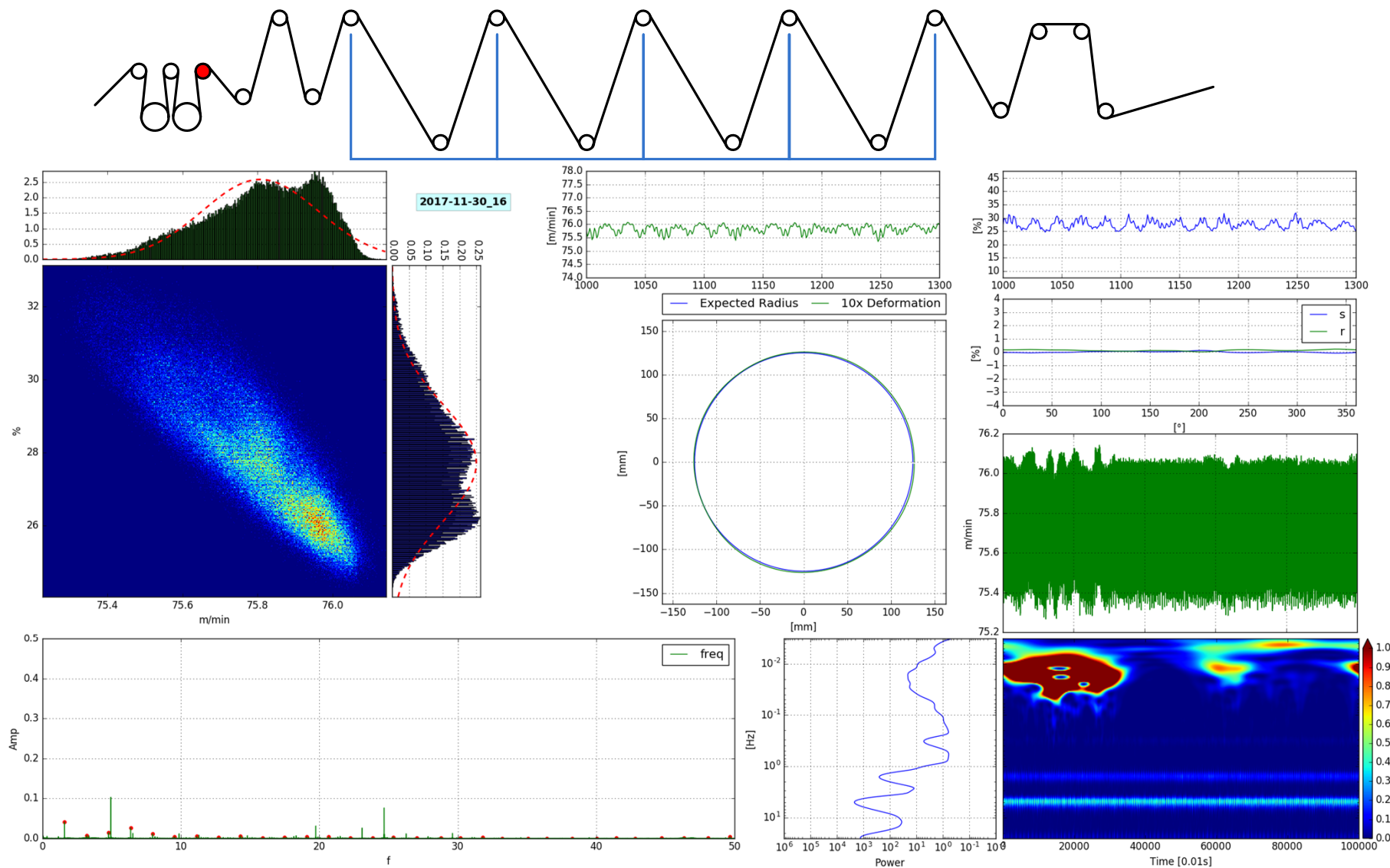
Comparison of Rollers in Plant



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Roller Analysis

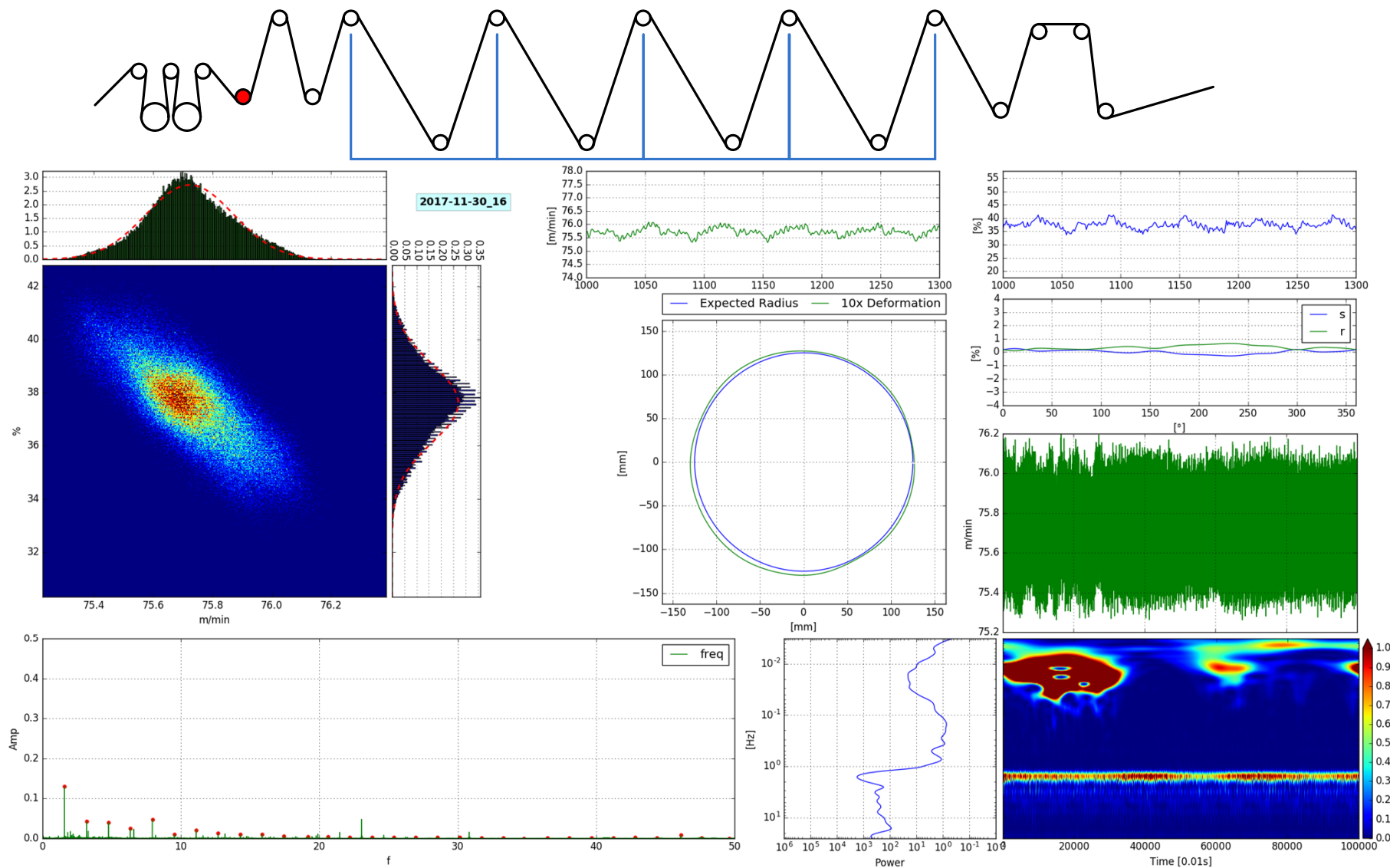
Comparison of Rollers in Plant



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Roller Analysis

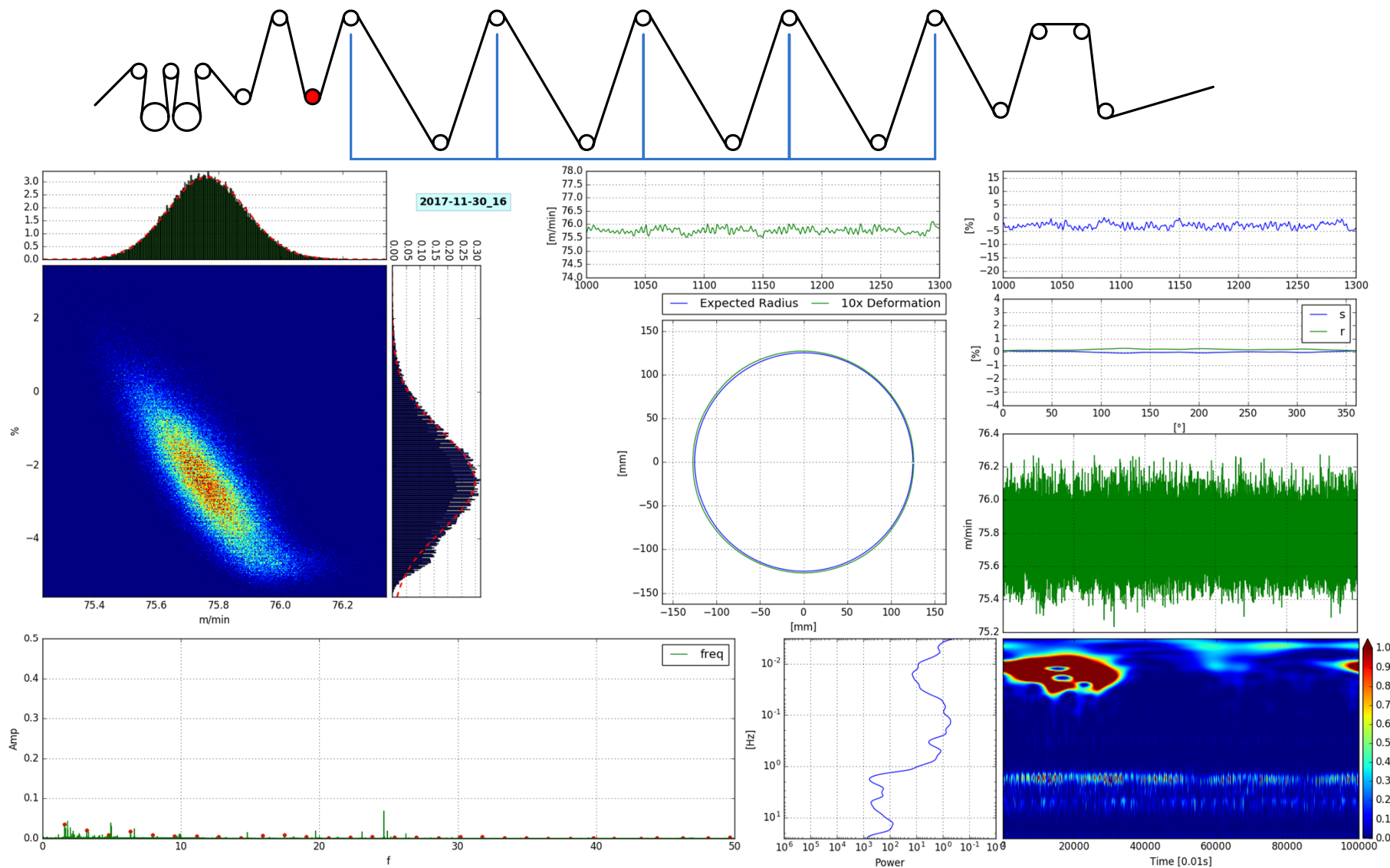
Comparison of Rollers in Plant



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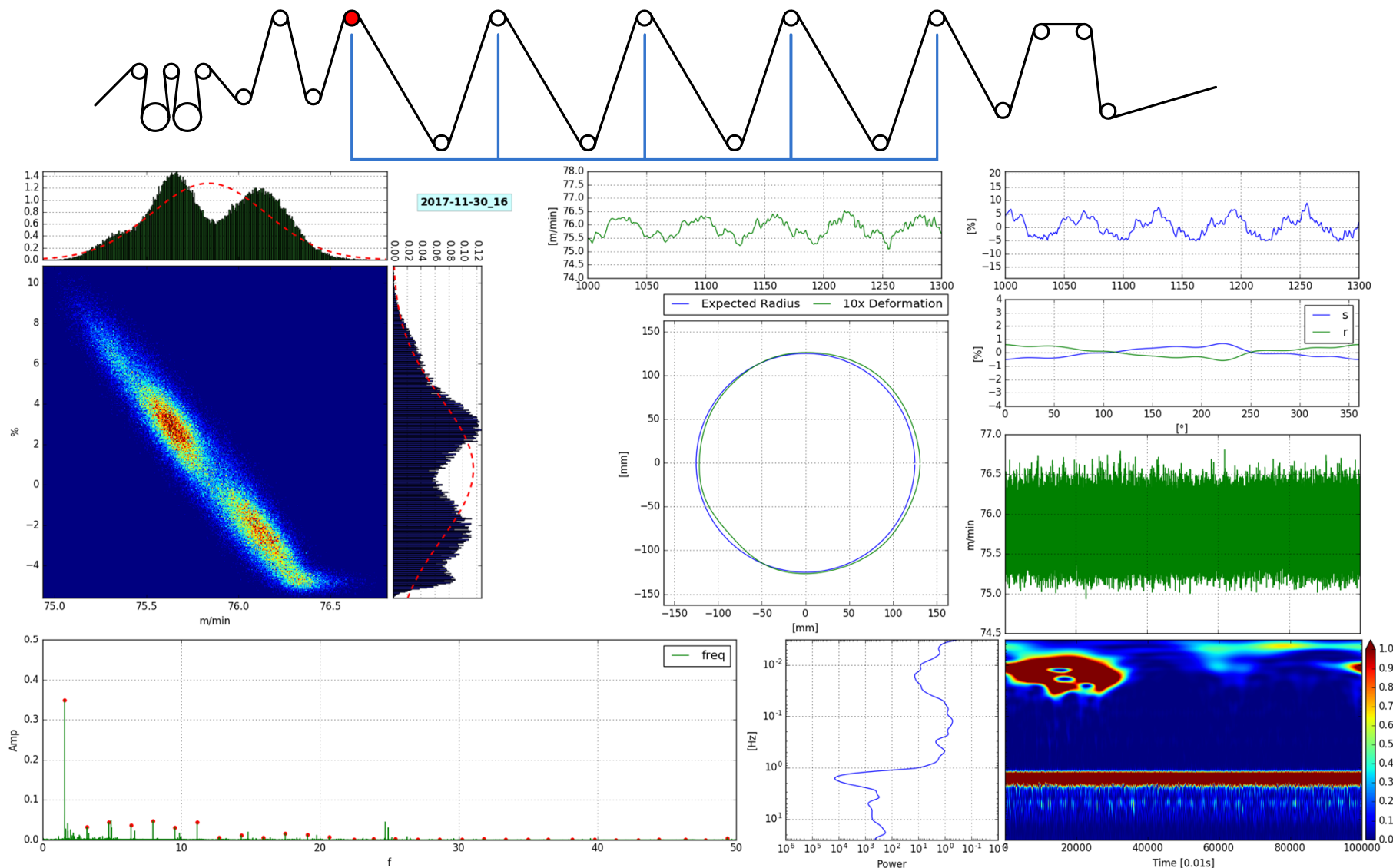
Roller Analysis

Comparison of Rollers in Plant



Roller Analysis

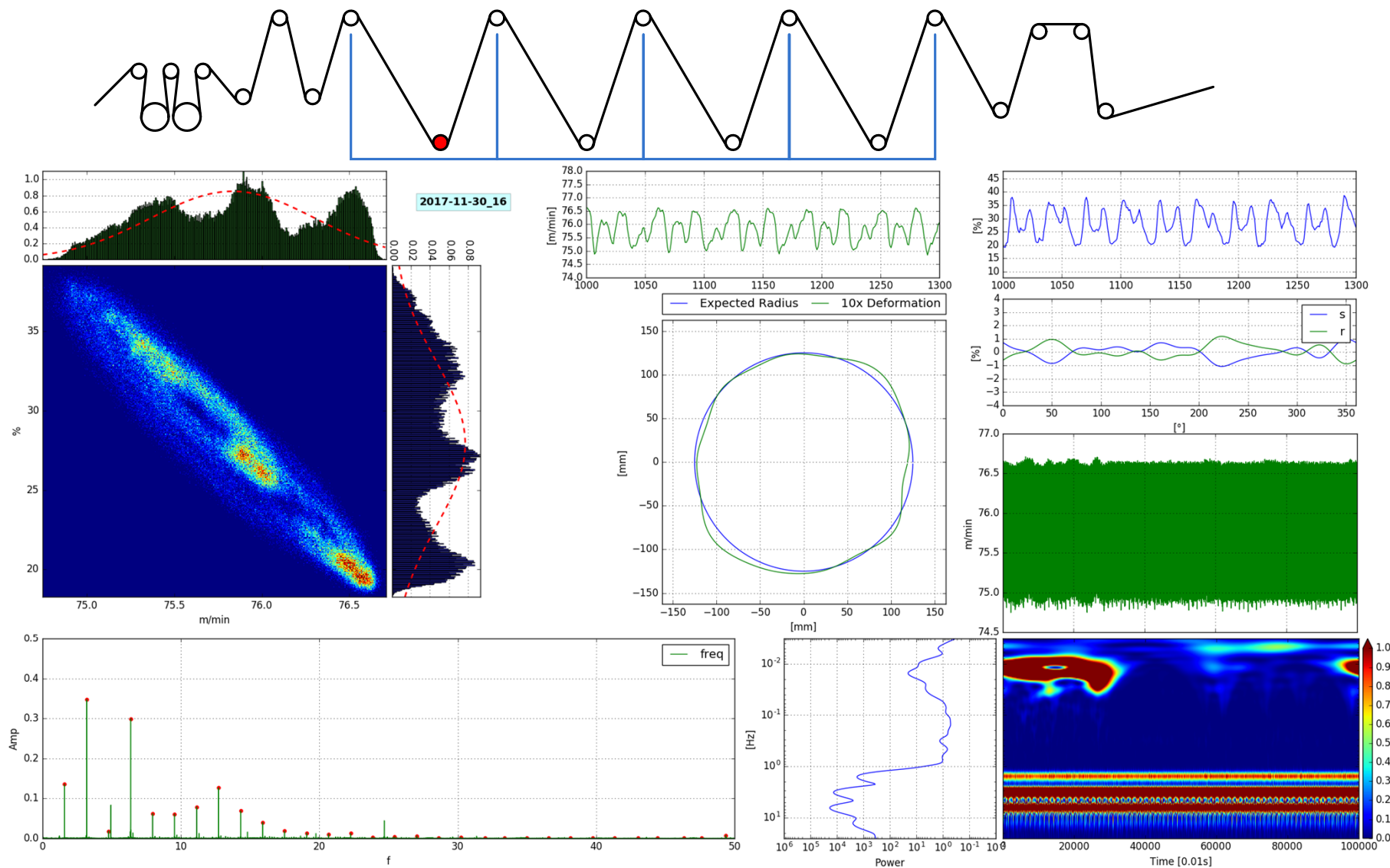
Comparison of Rollers in Plant



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Roller Analysis

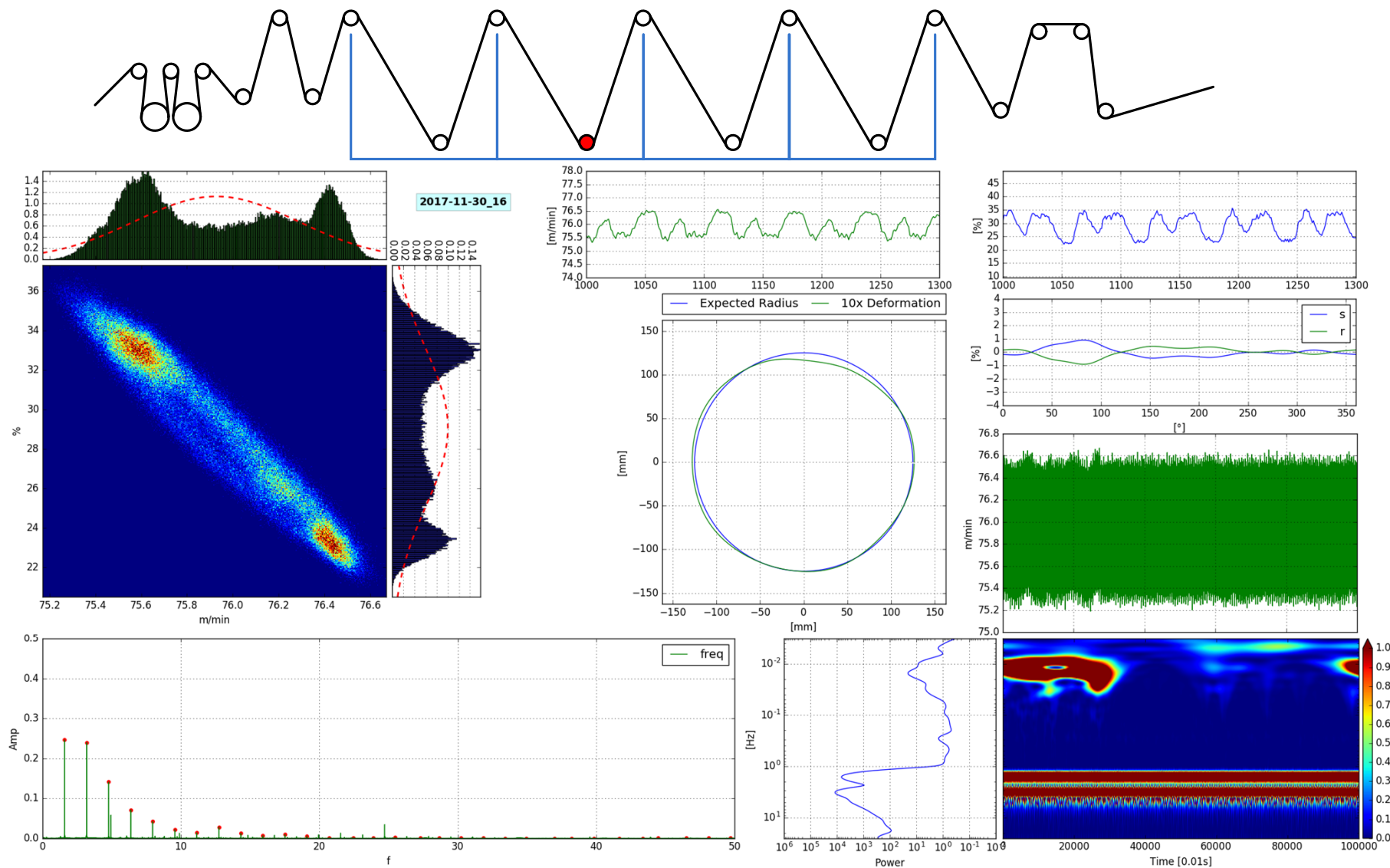
Comparison of Rollers in Plant



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Roller Analysis

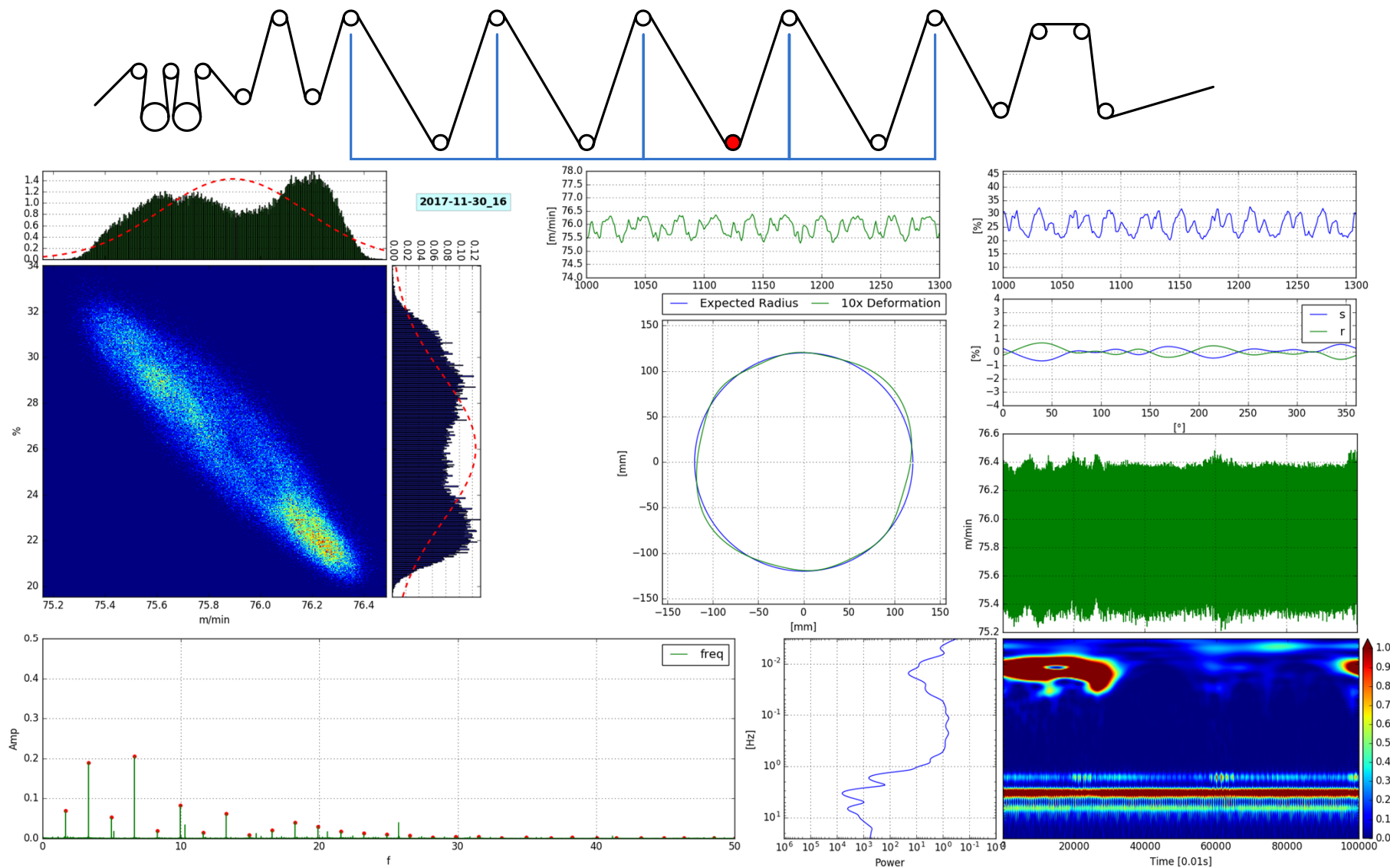
Comparison of Rollers in Plant



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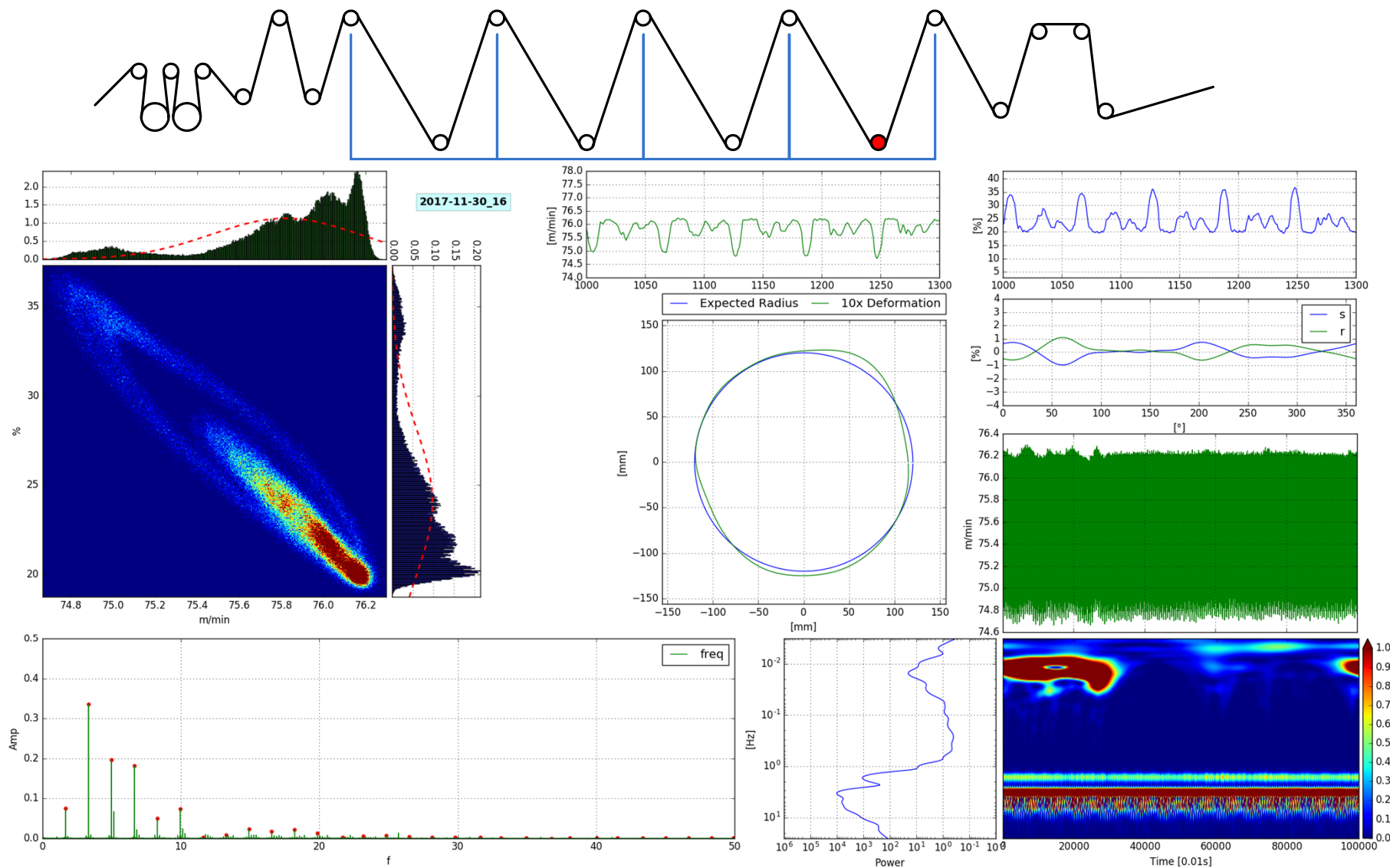
Roller Analysis

Comparison of Rollers in Plant



Roller Analysis

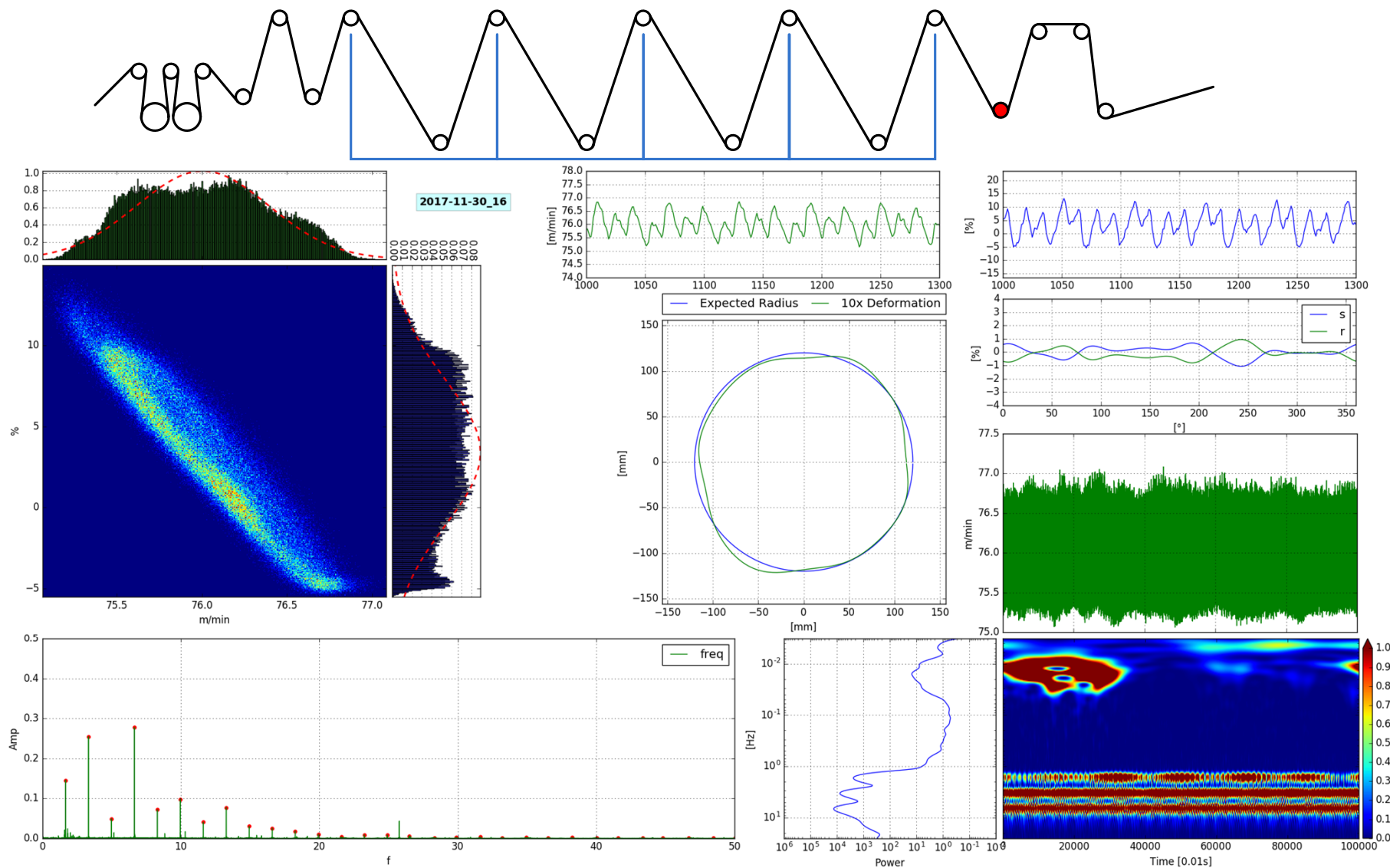
Comparison of Rollers in Plant



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Roller Analysis

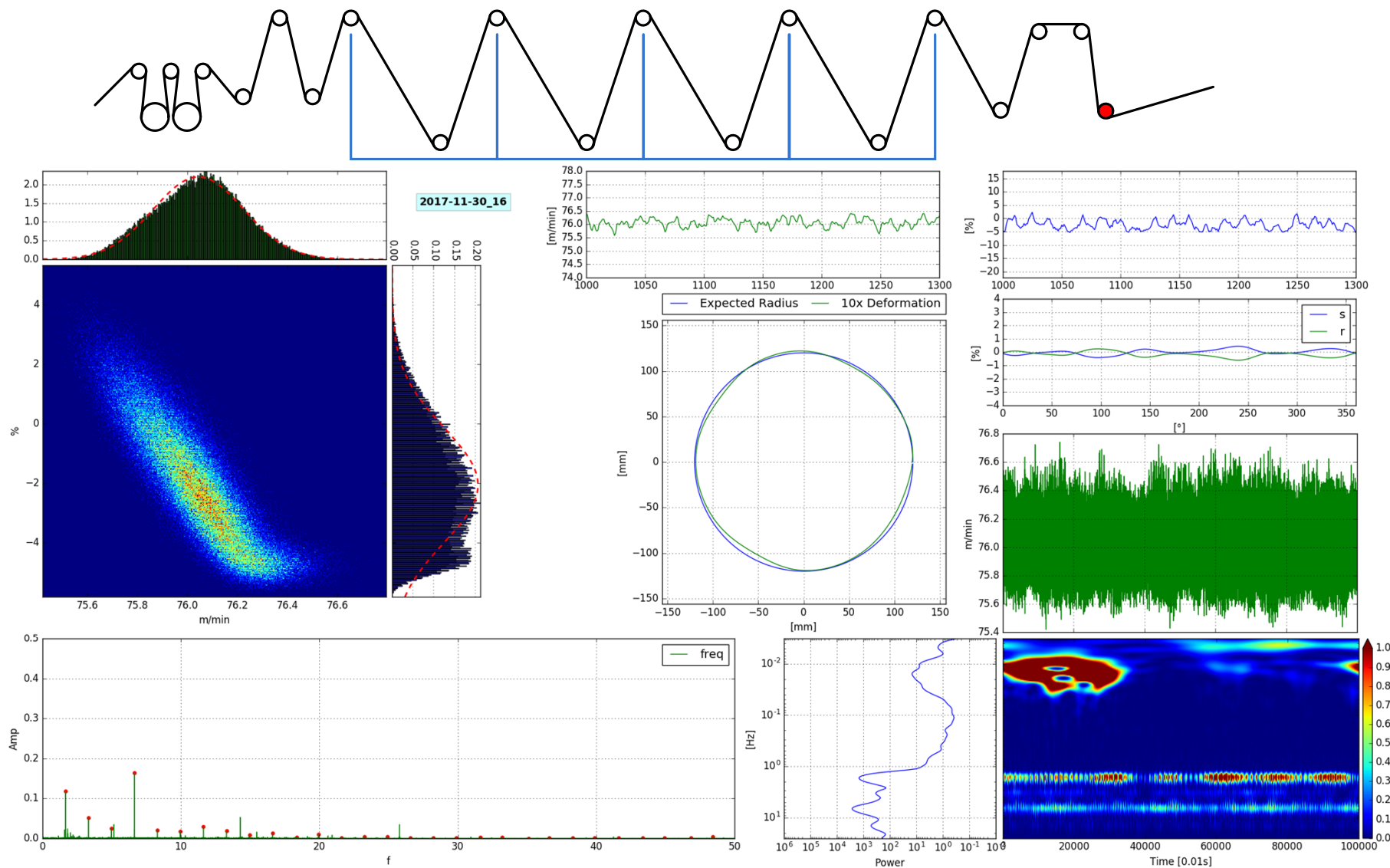
Comparison of Rollers in Plant



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Roller Analysis

Comparison of Rollers in Plant

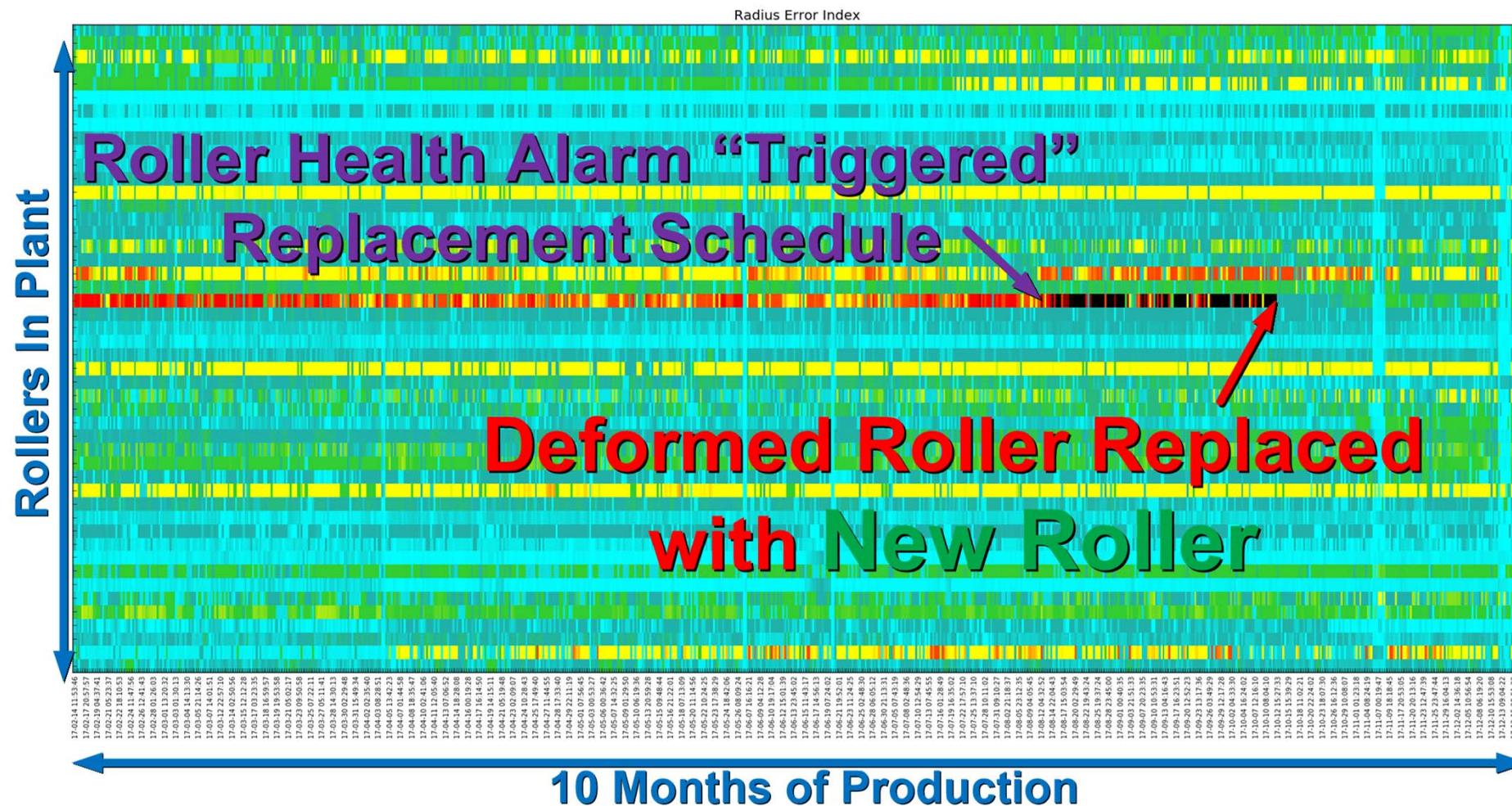


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Roller Analysis

Long Term Roller Deformation

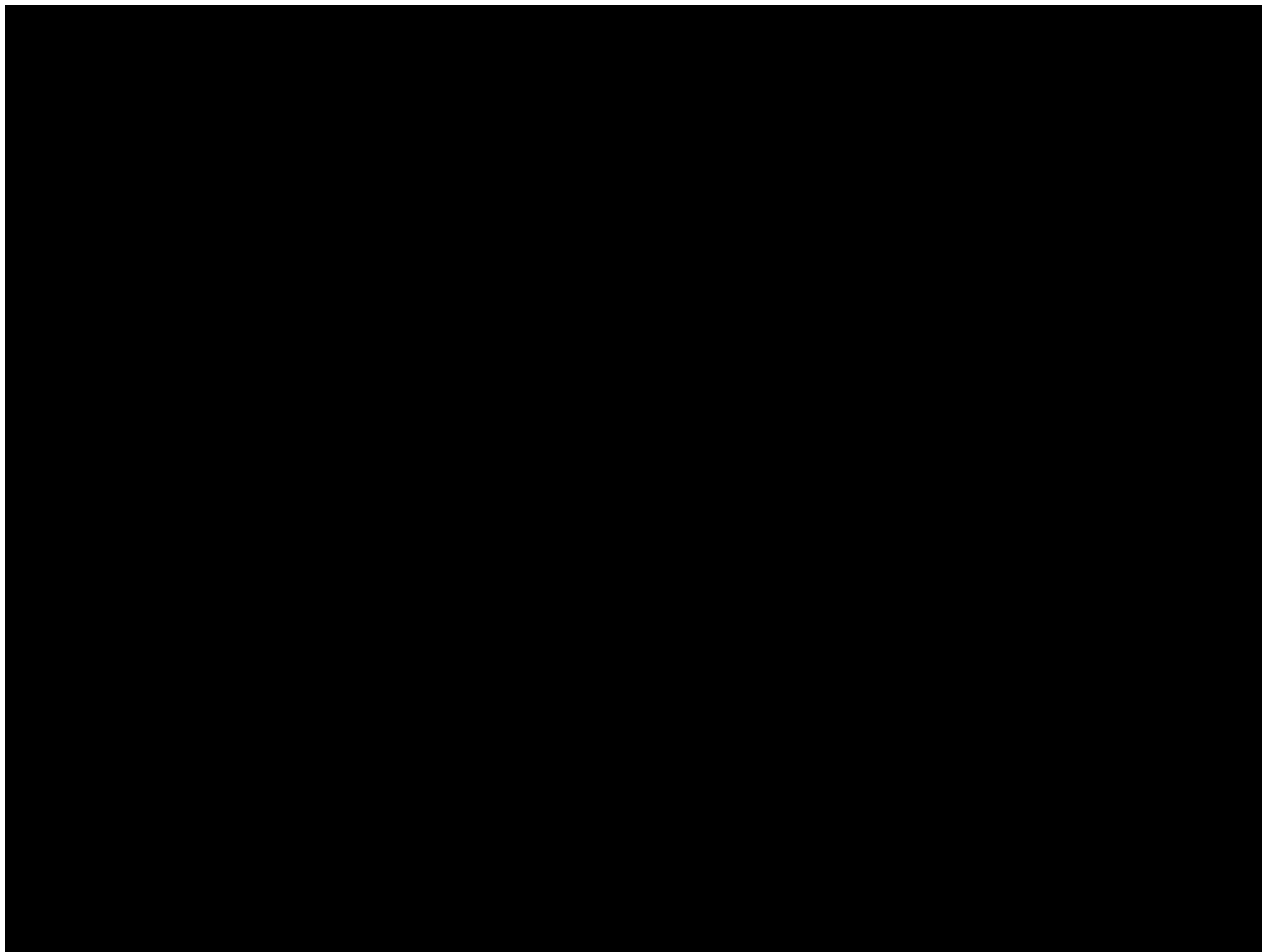
10 Months of Roller “Radius Error – Health Index”



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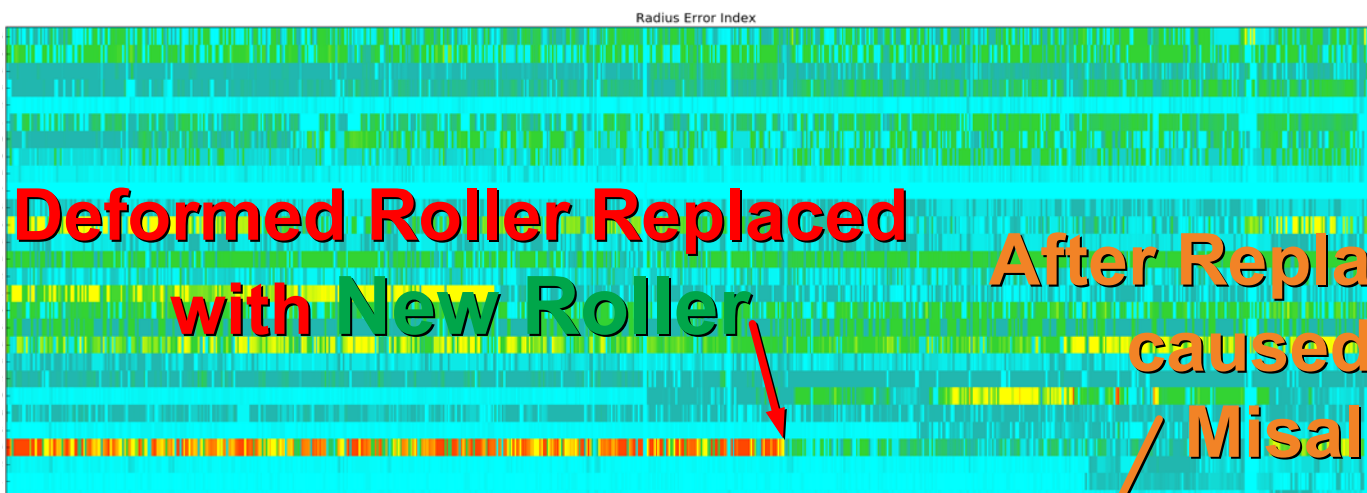
Roller Analysis

Long Term Roller Deformation

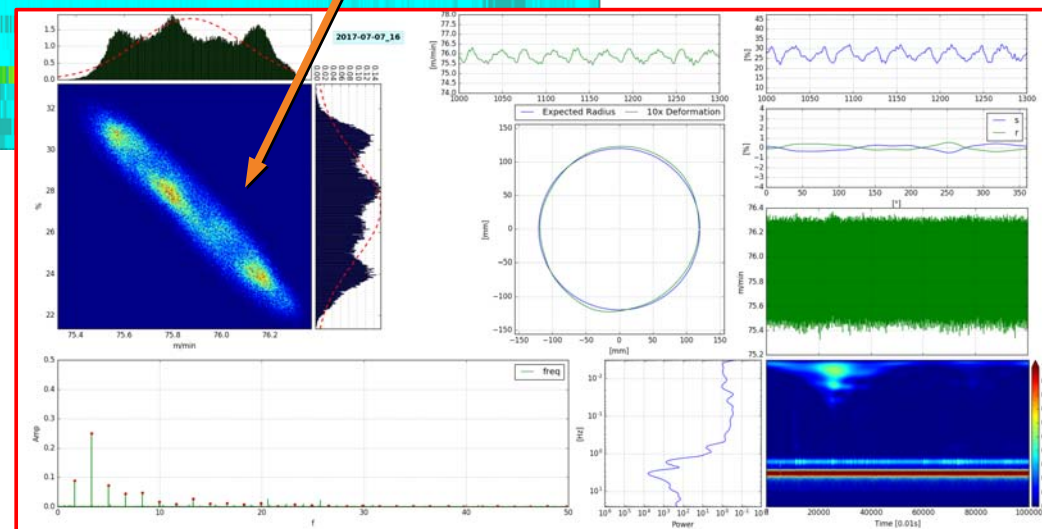


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Roller Installation Errors & Misalignment

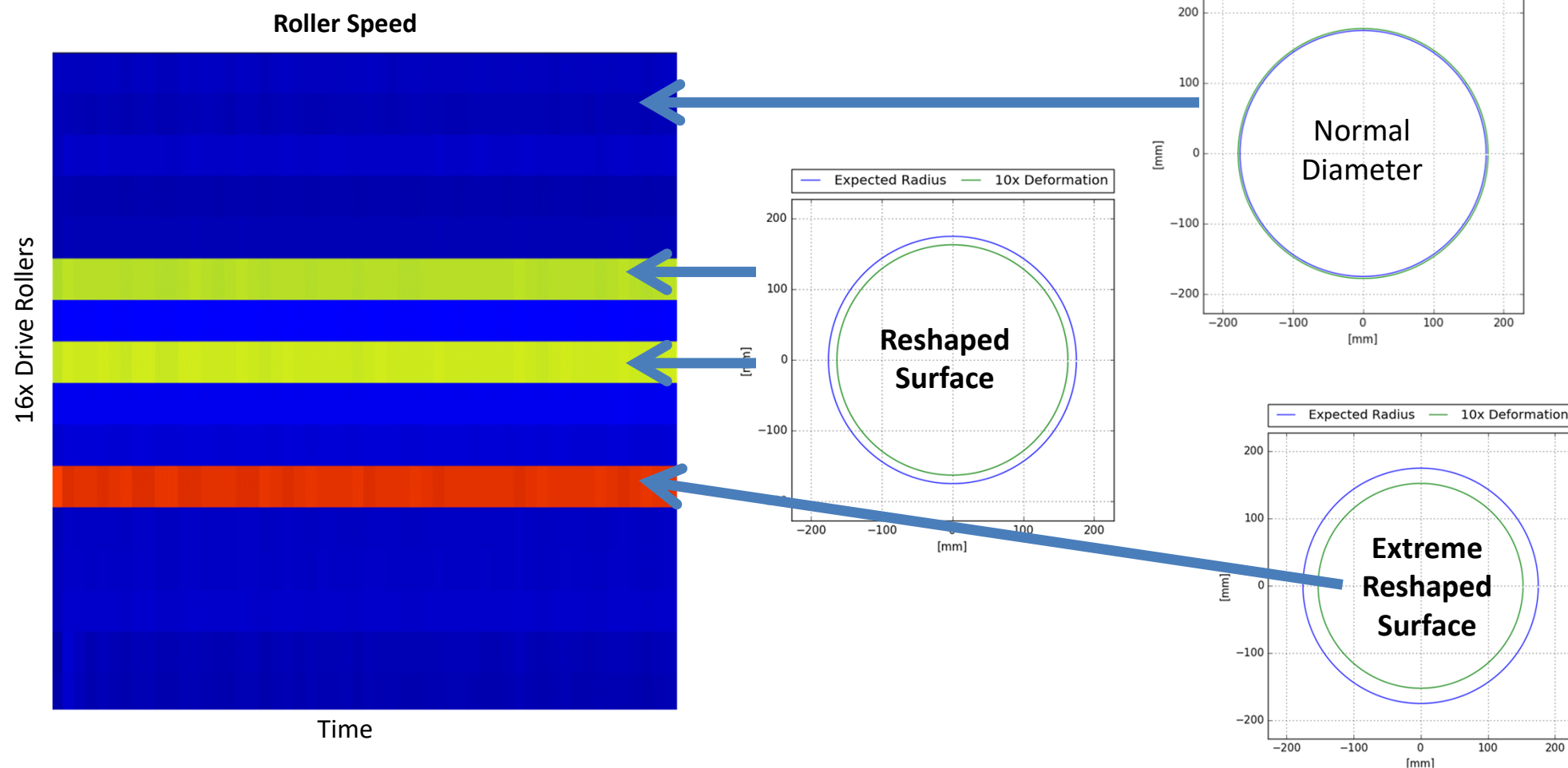


After Replacement Noise caused by Roller Misalignment



Roller Surface Reshaping & Re-Use

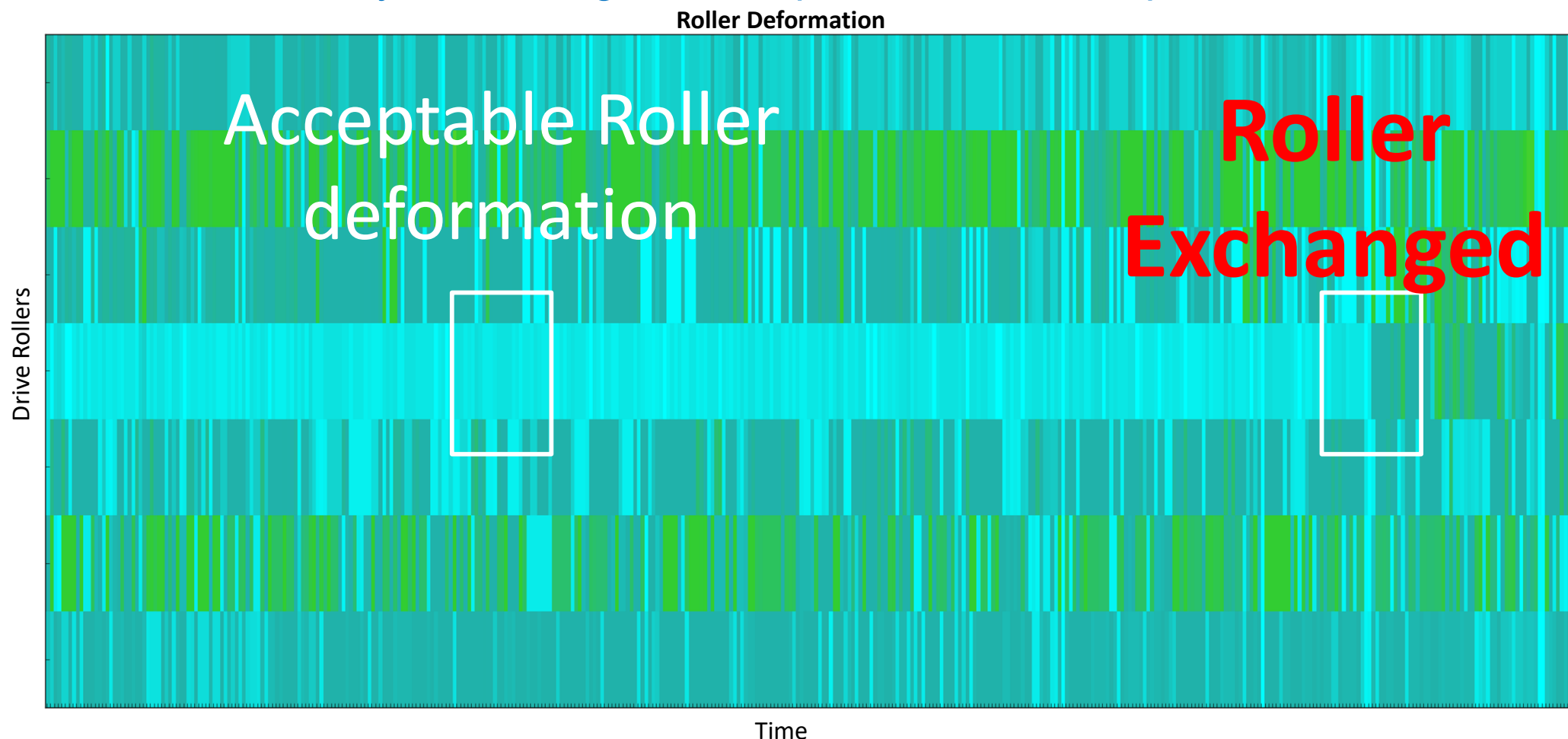
- Roller Surface Reshaping and Re-Use will be accommodated in the Predictive Models.



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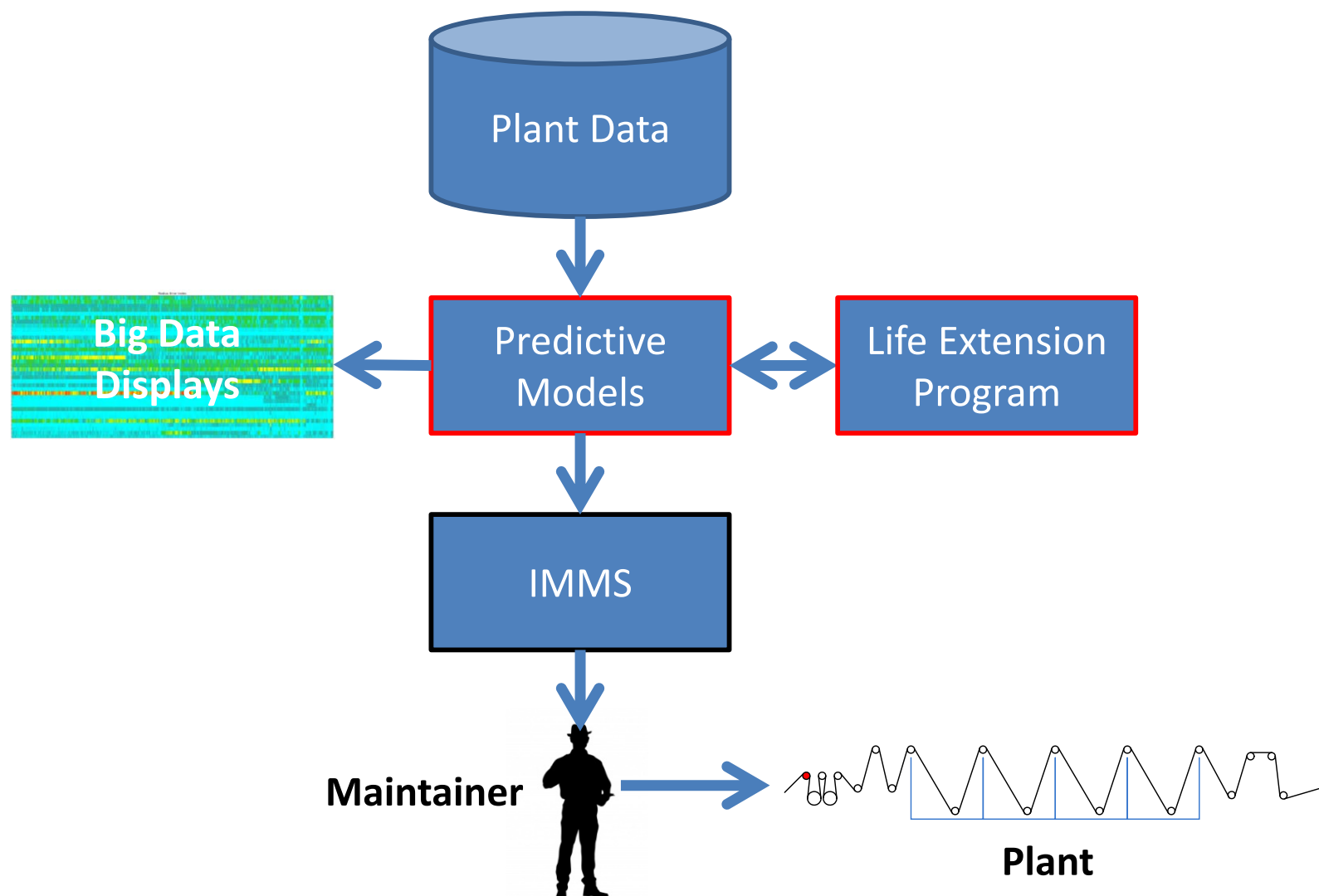
Roller Life Extension

- Rollers are **discarded** once it reaches **end-of-life-period** !!
The roller may still have good/acceptable health for operation.



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Integrated Maintenance Management Solution (IMMS)



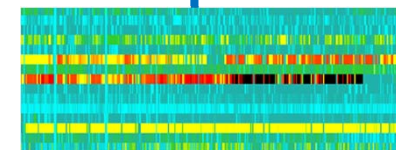
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Conclusion

- **Predictive Analysis using Plant Data** gives a good indication of **Roller Health**.



- **Predictive Analysis** will provide good **On Demand Maintenance Management** inputs.



- **Roller Life Extension** program Is Possible.

