

# EVENT ANALYZER

*Decision Support and Root Cause Analysis for Process Engineers*

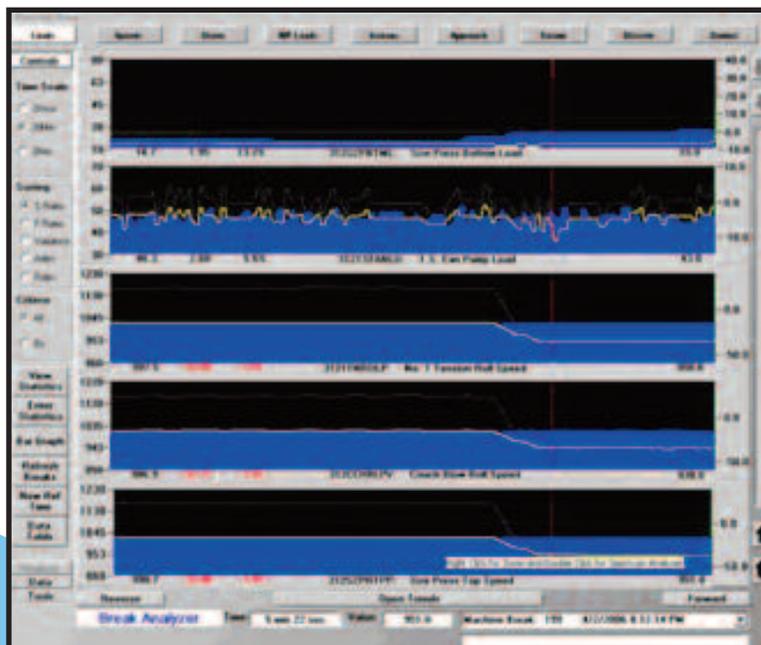
**THE PM EVENT ANALYZER** is a visual root cause data analysis tool that helps process engineers interpret massive volumes of data collected by industrial databases such as the PI System, OPC HDA, INSQL or by an internal SQL Server based high-speed server. The Analyzer does this by providing event-driven analysis of process variables. In the papermaking industry, this provides a shortcut to determining the causes of web breaks and other process related events or upsets.

The database systems acquire information from plants or processes via interfaces to automated control systems and other sources. These systems record data from thousands of these process 'tags', at specified intervals or by manual entry. When an event takes place, it is normal for operators to review alarm status on the DCS or on drive control panels and to check the selected process tags. But which tags, of the thousands being logged, should the operator check first?

**THE EVENT ANALYZER** is able to automatically identify the most likely process variable to examine. It does this by displaying a graphical representation of several hundred selected process variables and by ranking these according to an algorithm based on signal processing techniques. The result is that the tags associated with the most probable cause of the event identify themselves, without tedious searching by the engineer or the operator.

## MULTIPLE APPLICATIONS

The Event Analyzer has built-in features for paper machine break analysis, spectrum analysis and general process root cause analysis. Its high level mathematical tools can be used to analyze many kinds of process upsets or events.



## FEATURES:

- Graphical user interface
- Automatic ranking of high variability tags
- Quick to install
- Database-driven analytical tools
- Ability to e-mail results
- Based on industry standards 'Good run' vs. 'bad run' comparison
- On site access Laptop, H P4700
- User-selectable ranking criteria

## BENEFITS:

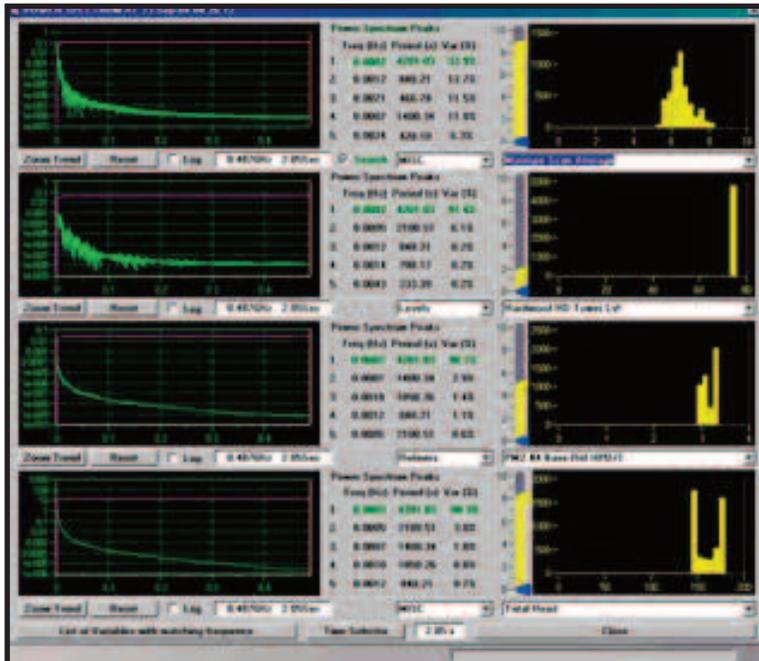
- Easy to understand and to use
- Immediate analysis available
- Quick payback, minimum disruption to operations
- Facilitate process improvements
- Improves knowledge-sharing
- Integrates with existing systems
- Easy to check the effect of changes
- Can deal with gradual process changes

## FAST PAYBACK:

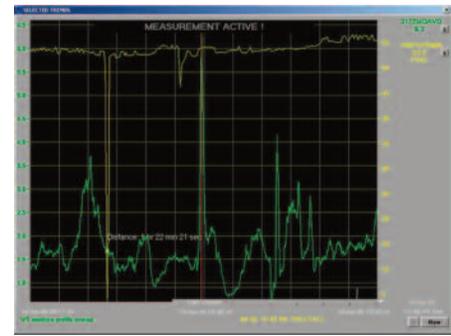
The Event Analyzer helps the operations staff to quickly diagnose process failures such as web breaks, generator trips and other process events, reducing the likelihood of misdiagnosis.

- Minimizes lost production
- Saves labor
- Avoids unnecessary repairs on misdiagnosed components
- Avoids secondary failures due to misdiagnosis
- Leads to rapid process improvement

## DETAIL POWER SPECTRUMS:



## GRAPHICAL INTERFACE



FREQUENCY CORRELATION LIST

TAG	UNIT	DESCRIPTION	PERIOD	PERCENT
2P20CP008	Wash Check	#103 DMS WASH D/CX COND	48 min 19 sec	50.3%
2P20CP007	Wash Check	#204 DMS 3 W WASH CH VLV CHG	48 min 19 sec	49.3%
2P20CP005	Machine Check	#103 DMS BLEND CHST LEVEL CHG	48 min 19 sec	47.7%
2P20CP001	HD & VAC	#110 TO #204 COND CIL	48 min 19 sec	43.7%
2P20CP002	Wash Check	#103 DMS WDS gnt COND CHG	48 min 19 sec	39.8%
2P20CP006	Key Variables	#204 DMS TRENDS DRG OCCUR	48 min 19 sec	37.8%
2P20CP009	Submers	#110 TO #204 FVDS CHST	48 min 19 sec	37.8%
2P20CP007	Machine Check	#05 BLEND CHST FVDS CHST	48 min 19 sec	34.8%
2P20CP016	HD & VAC	COND VACUUM	48 min 19 sec	27.8%
2P20CP003	Key Variables	#204 WASH VALVE	48 min 19 sec	27.8%
2P20CP001	Submers	#110 FVDS KINWASH DRG	48 min 19 sec	27.3%
2P20CP006	HD & VAC	DMS HDK WASH	48 min 19 sec	26.7%
2P20CP004	Wash Check	#110 TO #204 DMS WASH CH FLOW	48 min 19 sec	14.7%
2P20CP001	Submers	#05 BLEND KINWASH DRG	48 min 19 sec	12.7%
2P20CP008	HD & VAC	#110 TO #204 FVDS CHST	48 min 19 sec	11.5%
2P20CP008	Wash Check	#103 DMS TO #204 FVDS FVDS	48 min 19 sec	6.5%
2P20CP004	Wash Check	#103 DMS WASH TO #204 DMS WASH CHST	48 min 19 sec	2.5%
2P20CP008	Machine Check	#103 DMS BLEND CHST COND CHG	48 min 19 sec	2.1%
2P20CP005	HD & VAC	#204 TO #204 FVDS CHST	48 min 19 sec	0.8%

