DIAGNOSTIC ALGORITHM BENCHMARKING
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Objectives
• Benchmark diagnostic algorithms (DAs) using standardized platform
• Compare performance empirically
• Facilitate research in and maturation of diagnostic technologies

Challenges
• Various diagnostic approaches (expert systems, model-based, data-driven, stochastic)
• Diagnostic algorithms support different operational contexts – difficult to define evaluation criteria

Approach
• Acquire nominal and faulty experimental data with known ground truth
• Use standard formats for system description, data, and diagnosis results
• Create software framework to execute diagnostic algorithms and evaluate performance

Diagnostic Framework (DXF)

DEFA-I classification error by scenario detection type
DP-I cost breakdown by scenario fault type

Implementation

Results (only DXC’10 DP-I shown, see links for more information)

Publications and Data Sets
ADAPT Electrical Power System information, software framework, sample data, test data, results, publications and presentations are available on DASHlink:
• DXC’09: https://c3.ndc.nasa.gov/dashlink/projects/36/
• DXC’10: https://c3.ndc.nasa.gov/dashlink/projects/33/

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