ASKE Use Cases (2)

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Knowledge Retention and Curation

ASKE

Equations and description in text and engineering code (typically in FORTRAN/BASIC..)

Expert curated

PROGRAM B

Graphical representation of variables: XY plots, Area plots…

Expert curated

Challenge: Correlation is not causation
Expert curation required to make proper assessment

- Learn new abstractions
  - Evolutionary trends
  - Scaling
- Relationships between variables
  - Non-dimensional groupings
- Bayesian Hybrid models
- Models of physical significance
- Uncertainty quantification
- Underlying physical principles

Design notebooks
Technical Manuals
Technical Bulletins
Field Manuals
…

Knowledge retention is a key challenge of US industry. Expert curation of documentation will enable retention of knowledge and avoid costly re-learning of lessons

Higher Level of Abstraction and Inference

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Published Literature,
Internal Reports,
Technical Reports,
Design review reports
Documentation

Enables :
tracking of evolutionary trends,
identifying hidden relationships,
subtle physical principles.