

# SOFTWARE ERROR EXPERIMENT

COMPUTER SCIENCE DATA SYSTEMS TECHNICAL SYMPOSIUM

APRIL 16, 1985

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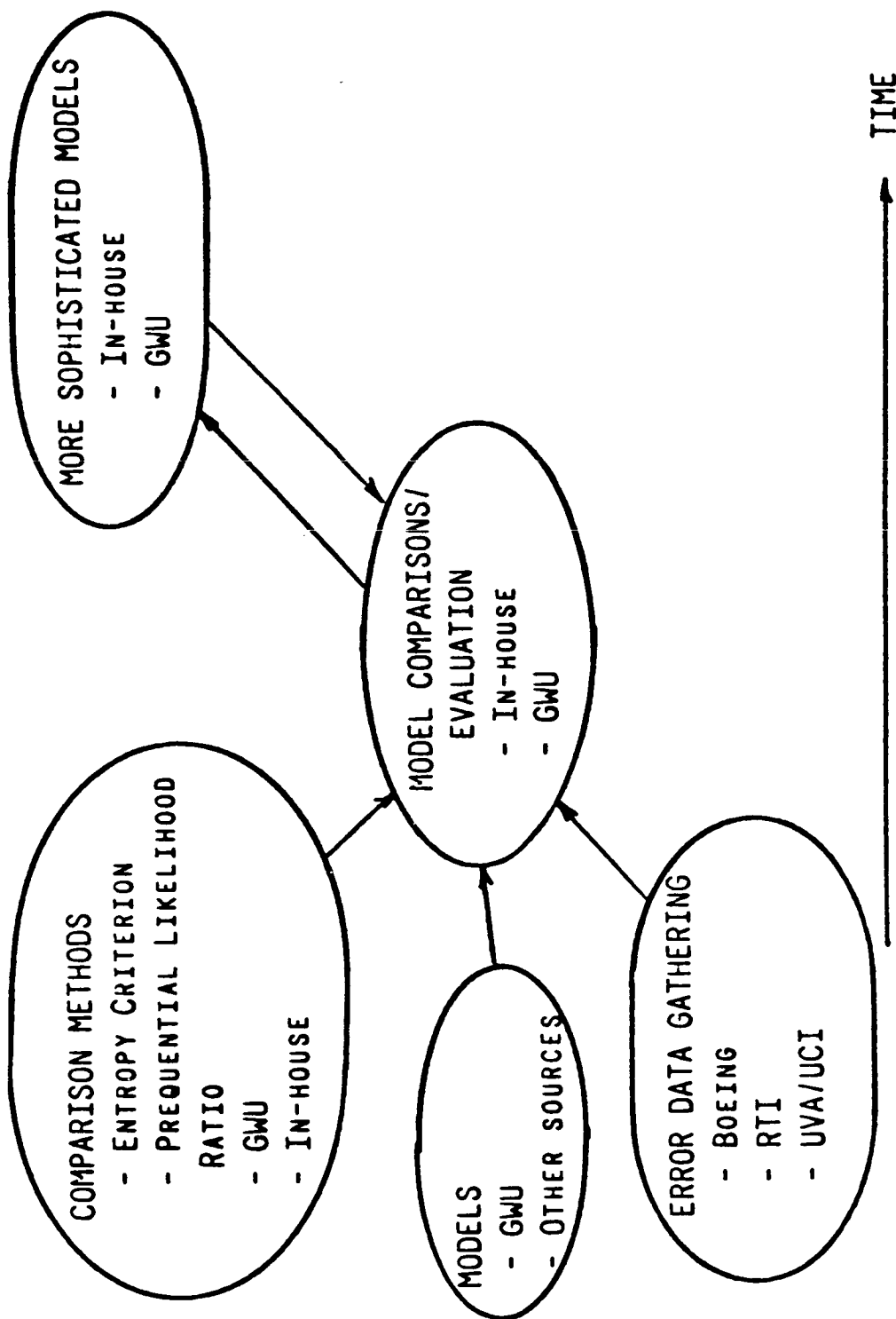
SOFTWARE ERROR EXPERIMENT

SOFTWARE RELIABILITY STUDIES

GOAL

TO DEVELOP ANALYTIC METHODS TO PROVE PERFORMANCE PROPERTIES  
AND MEASURE RELIABILITY PROPERTIES OF SOFTWARE

# SOFTWARE RELIABILITY STUDIES



## GENERAL STRATEGY

## SOFTWARE ERROR EXPERIMENT

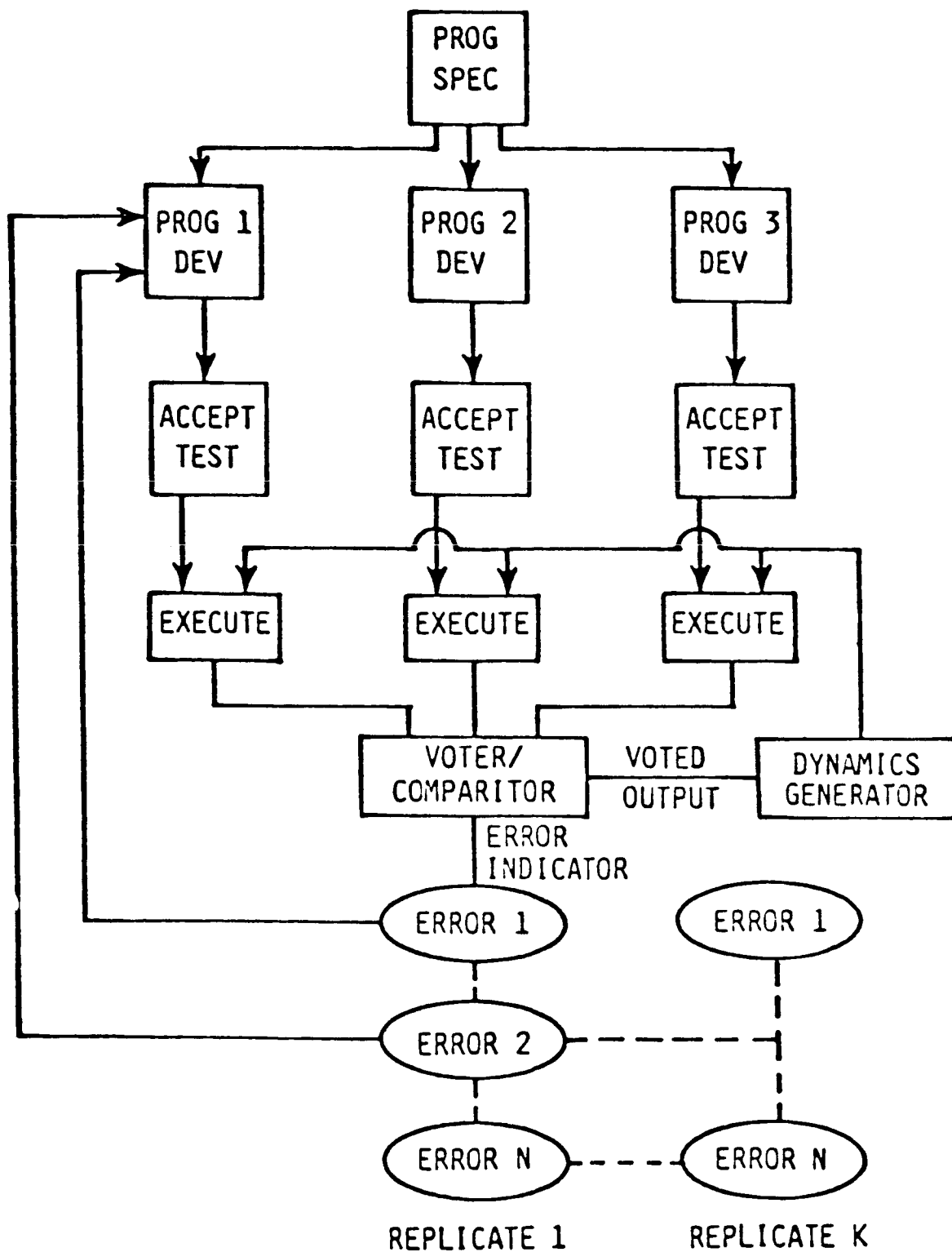
## SOFTWARE RELIABILITY STUDIES

### IMPORTANCE OF RESEARCH

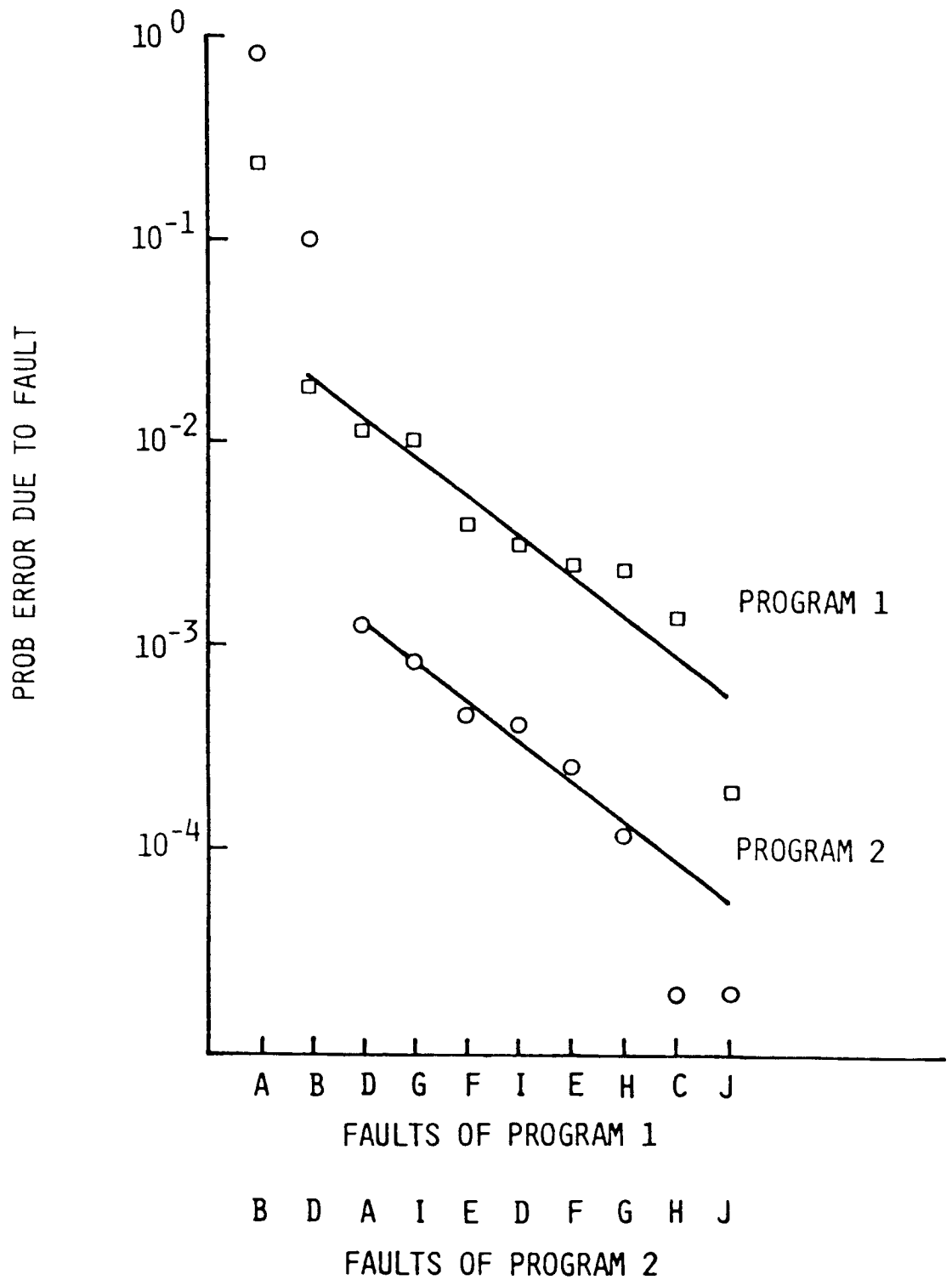
SOFTWARE IS ONE OF THE ELEMENTS WHOSE UNRELIABILITY CHARACTERISTICS NEED TO BE EVALUATED IF ESTIMATES OF AVIONICS SYSTEMS UNRELIABILITY ARE TO BE BELIEVABLE.

OF THE SOFTWARE RELIABILITY MODELS PROPOSED IN THE PAST DECADE, NONE HAS YET BEEN SHOWN TO BE ADEQUATE FOR PREDICTION/ESTIMATION PURPOSES IN THE CONTEXT OF HIGHLY RELIABLE SYSTEMS.

# SOFTWARE ERROR EXPERIMENT



# PRELIMINARY RESULTS OF THE SOFTWARE REPETITIVE RUN EXPERIMENT



## SOFTWARE ERROR EXPERIMENTS

### FUTURE PLANS

- 0 ANALYZE DATA FROM ADDITIONAL VERSIONS
- 0 GENERATE MULTIPLE VERSIONS OF CONTROL PROBLEM
- 0 DEVELOP MORE SOPHISTICATED MODEL