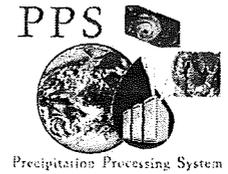


# PPS– Test Approach

James J. Spero



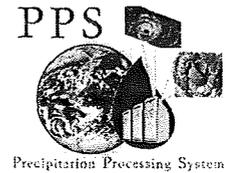
# PPS System Test Approach



- **Component Testing**
  - Purpose of testing is to verify component-level requirements and discover problems
  - Informal testing lead and implemented by developers
  - No formal problem reporting system
  - Problem corrected and tested by developers
  
- **System Level Testing**
  - Purpose of testing is to verify system-level requirements and discover problems
  - Informal testing implemented by developers, monitored by System Engineer
  - No formal problem reporting system



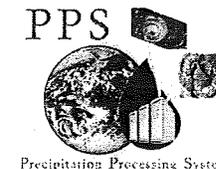
## PPS Operations Acceptance Test Approach (1 of 4)



- **Purpose of testing is to demonstrate operational readiness, not target finding additional problems**
  - System Level requirements will be verified
  - PPS will be certified as operationally ready to support TRMM at the end of OAT
- **Formal test plan**
  - Normal operations will be conducted in parallel with the operational TSDIS
  - Anomalous conditions will be introduced to verify operational response and recovery times
  - All parts of the system will be exercised
- **System Anomaly testing**
  - Introduce planned system hardware and software anomalies throughout OAT
  - Verify operator and system response to anomalies
  - Verify recovery procedures



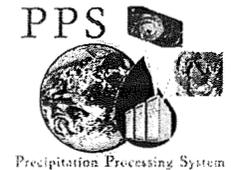
## PPS Operations Acceptance Test Approach (2 of 4)



- **Ingest**
  - TMI and VIRS data will be ingested from the Ingest machine
  - PR data will be ingested from the TSDIS SGI after Level-1C processing
- **Initial Processing**
  - Will be executed on both Beowulf and SGI platforms
  - PR will be processed to Level-1C on SGI and Level-2 and Level-3 on Beowulf
  - TMI and VIRS will be processed from Level-0 on Beowulf
- **Reprocessing**
  - Executed using pre-loaded data from 12/1/1997 To 12/31/2002
  - PR processing will begin with Level-2A using Level-1C input
  - TMI and VIRS processing will begin with Level-1A using raw data input



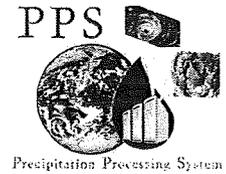
## PPS Operations Acceptance Test Approach (3 of 4)



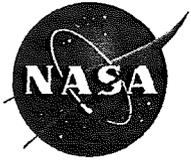
- **ITE**
  - Will verify running on non-interference basis along with production
- **Product Ordering and Delivery**
  - Orders will be submitted through STORM
  - Standing order and special requests
- **Data Archiving and Retrieval**
  - Simultaneous read/write capabilities for initial processing, re-processing, ITE, and orders
  - Capability to store multiple product versions
  - Off-site archiving and retrieval
- **System Monitoring**
  - Various aspects of the interface and usability
  - E-mail and phone notification for critical messages
  - System reaction to anomalous conditions



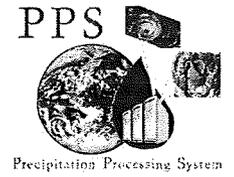
## PPS Operations Acceptance Test Approach (4 of 4)



- **Tests executed by Operations Engineer and Operation staff and directed by the System Engineer**
- **OAT will be used to train operators on new software**
- **Formal problem reporting system will be used (Bugzilla)**
- **OAT will run for at least 90 days in parallel operations with existing TSDIS**
- **Testing scheduled to begin on 9/3/2007 and end 12/28/2007**

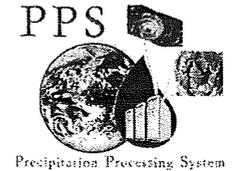


# OAT Animation





# PPS OAT Algorithm Test Approach



- **Test in parallel with existing TSDIS algorithms**
- **PPS system does not impact or change algorithm code**
  - Algorithms are provided and maintained by Science Team.
- **Compare results for each algorithm from both systems**
  - Level-1/Level-2 products: Instantaneous spot checks
    - Less than 1% of total products if no anomalies at Level-3
  - Level-3 Products: Compare accumulations
    - 100% of all products will be compared
  - Analysis Products: Spot checks
- **Anomalies at Level-3**
  - All Level-2 input data will be checked
  - If no problems are detected in Level-2, all Level-1 inputs will be checked



# Operational Testing Animation

