2. Contributions to the Field of Real-Time and Embedded Systems

- Standard mono-processor RT task model system $S$
- Proposed H'RTIS hybrid scheduling technique splits $S$ into two distinct execution contexts
  - **FENP context**
    - Hard tasks requiring perfectly synchronous operation
    - Time-driven, cyclic scheduling
    - Non-preemptive execution
  - **MECF context**
    - Remaining RT tasks
    - Dynamic, deadline-driven scheduling
    - Partially preemptive execution
    - High flexibility and scheduling efficiency
    - Lower predictability, execution jitter

(BGND context)
Negatives to the Field of Repetitive Measurements

- Kalman filtering of repetitive distance measurements
- Accuracy of ±0.0 mm - ±50 mm
- Increased procedure duration (with number of repetitions)
- Optimal results → ~10 repetitive measurements

CDF distance measured for 1000 mm real distance