Sensor Features: Characterization, Removal and Science Impact

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Sensor Anomalies & DESC Context

- **Sensor Anomalies** subject of weekly SAWG meetings and two recent Precision Astronomy workshops
- **Sensor Anomalies** = Change in Effective Pixel Size
- **Brighter-Fatter, Tree Rings, Edges & Midlines, Pixel Boundaries**

![Graph and images showing sensor anomalies]

- **Sensors Anomalies** ⇒ Simulations ⇒ DM ⇒ DESC Science WGs
- **Context is upcoming DESC Data Challenges**
  - Pixel level simulations of 100 sq deg. and 1000 sq deg. are planned
  - Idealized and Realistic
Goal of the Breakout is to Answer These Questions

- Are PhoSim and DM algorithms ready to go?
- Data Challenge Simulations with realistic conditions:
  - which sensor effects should be simulated?
  - what magnitude and variation should be used?
- What information does DM need to correct for realistic-level sensor effects?
  - Lab measurements?
  - Simulated calibration data?
- With what fidelity do sensor effects need to be simulated and corrected?
- What additional CCD studies are needed?