A Fast Two-Step Coarse-Fine Calibration (CFC) Technique for Precision Comparator Design

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Abstract: a two-step offset correction technique for high precision comparator design is proposed. The two step coarse-fine calibration (CFC) technique provides precise offset correction much faster than a single step calibration and the circuit implementation is less complicated. The proposed two-step calibration technique was employed on a two-stage dynamic latched comparator using 0.35\textmu m CMOS process. The post layout simulations shows that the proposed technique improves the correction precision 15 times compared to a single stage offset correction while requiring less die area, correction cycles, and calibration time.