* 1.Introductions
  + Motivation
  + Research Focus
* 2.Fundamentals
  + Motor Structure
  + Coordination systems
  + Motor equations
  + SynRM machine parameters
* 3.Motor Control
  + Controlled System
    - parameter normalization
    - electric equations
    - Mechanical equations
    - discrete representation
  + Controller System
    - current controller
      * State controller
      * Bypass-I-Regler
      * discrete representation
      * Anti-wind-up
* 4. Current Reference Generation
  + Look-up-Table methods
    - MTPA and MMPV Table
    - Problem with LUT method
      * Energy inefficiency in FW region
      * Need for MTPV and M-N curve data from motor testing through test bench
  + Feedback methods
    - Objectives
      * Minimize copper loss in FW region
      * Current reference point
    - Controller design
      * Current set point calculation
      * Boundaries limitation and condition
        + MTPA / MTPV I / MTPV II
    - State operations and control goal
      * State definition and Control goal
        + MTPA / FW / MTPV I /MPTV II
      * Output value of each state
        + MTPA / FW / MTPV I /MPTV II
      * State switching logic
      * State flow model
  + Torque Observer
    - Torque Observer equations
    - Validation with motor data
  + Filter design
    - Filter type comparison and selection criteria
    - Filter equations
* Simulation Results and Test Bench validation
  + Simulation
    - M-n curve
    - M-n data within FW region
  + Test Bench Measurements
    - M-N curve
    - M-n data within FW region
* Summary and Outlook