

# DYNAMIC APERTURE SIMULATIONS FOR THE COMPACT LAYOUT

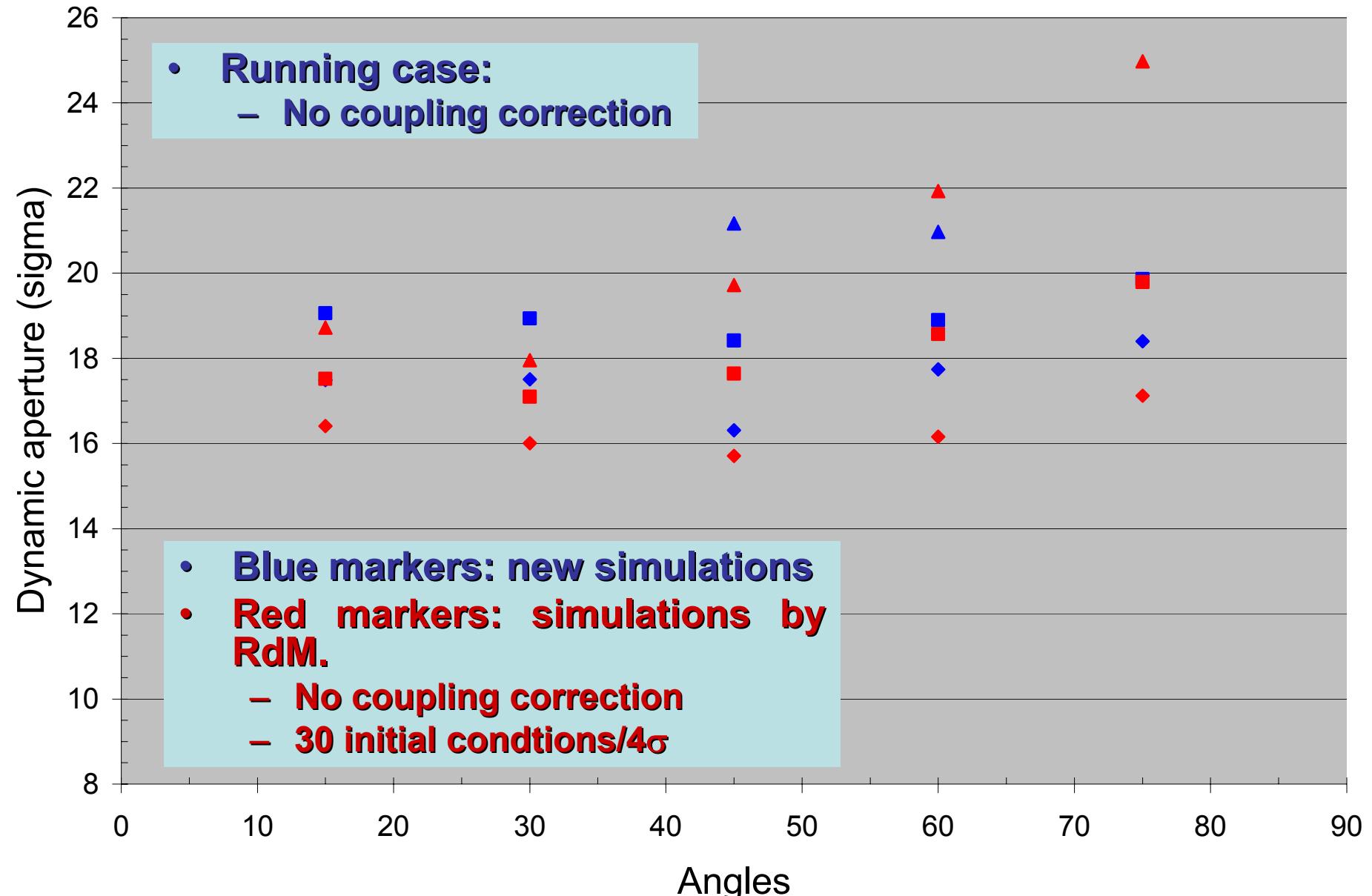
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Acknowledgements: W. Herr, R. de Maria, M. Meddahi,  
R. Tomás

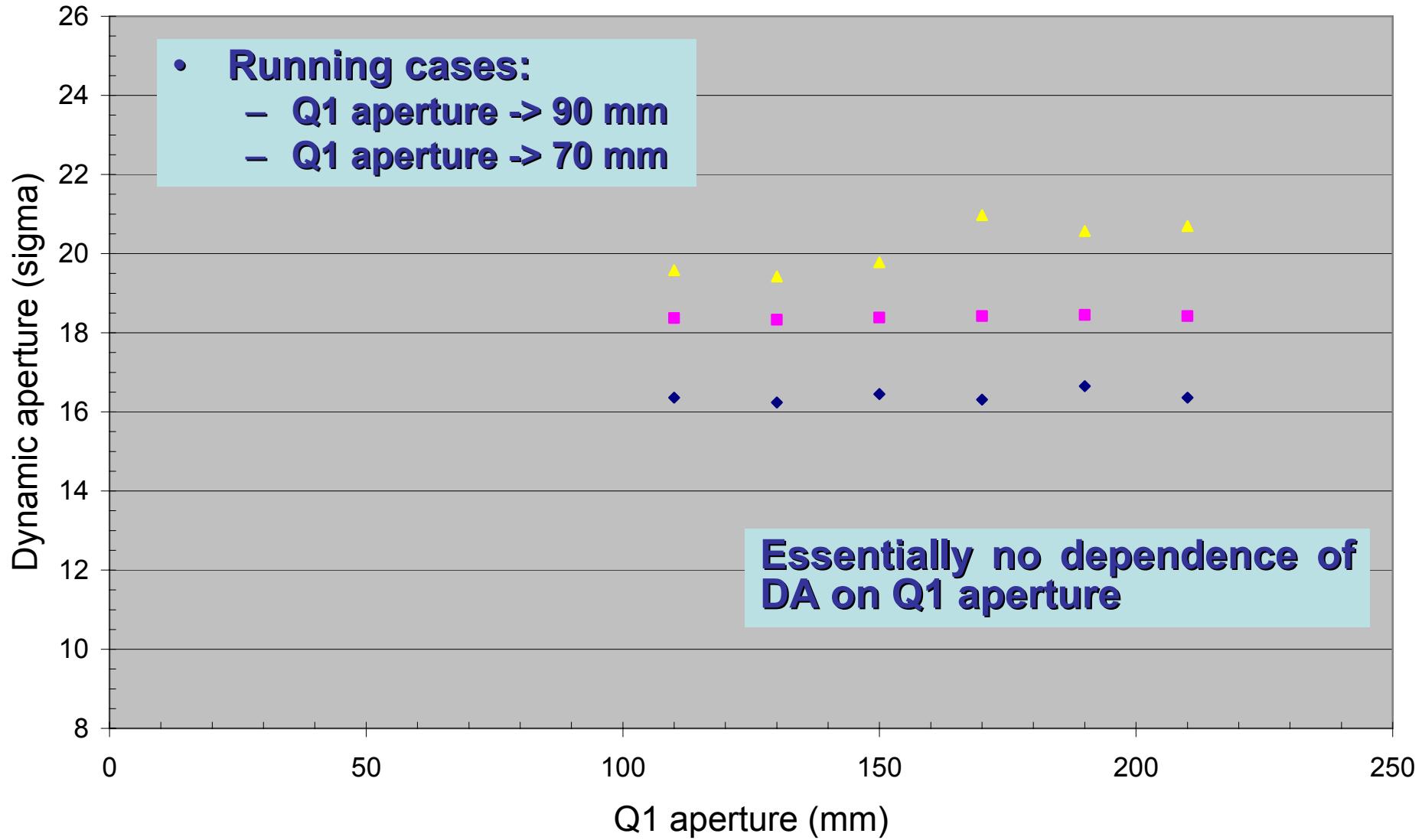
# DA studies

- Assessment of COMPACT layout (Beam 1).
- Impact of triplet aperture on DA:
  - Assumption as in LHC PR 1010: field quality scales with magnet aperture.
  - Optics is kept constant (dependence of magnetic gradient on aperture disregarded)
  - Aperture of triplet quadrupoles is varied. Scan on
    - Q1 aperture (Q2 and Q3 constant)
    - Q2 and Q3 (Q1 constant)
- NB: all the simulations are performed using the standard protocol, namely:
  - Coupling and a3 correction
  - Errors for the machine-as-built
  - 60 seeds
  - 30 initial conditions/ $2\sigma$

# Results - I

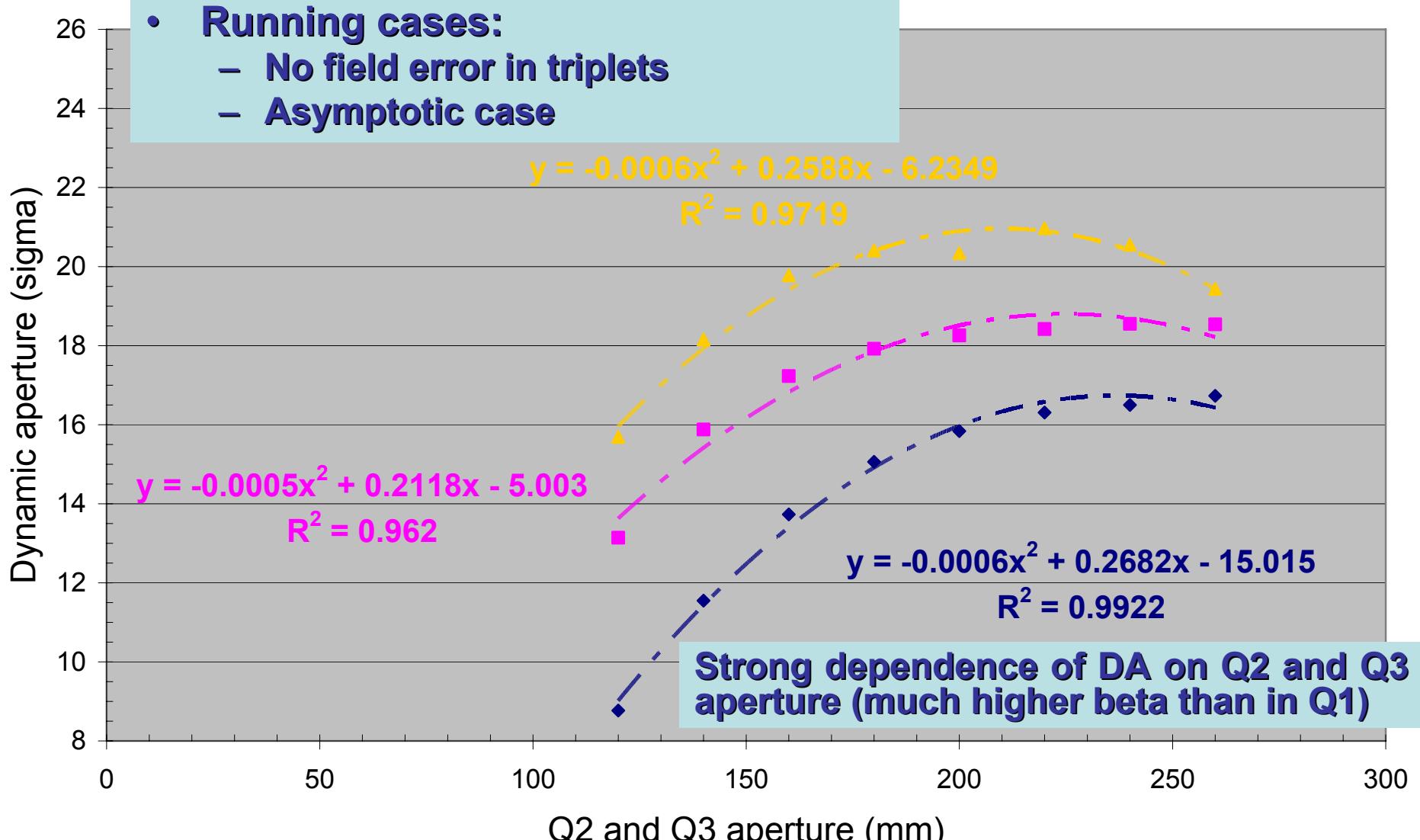


# Results - II



# Results - III

- **Running cases:**
  - No field error in triplets
  - Asymptotic case



# Outlook

- To do
  - Verify impact of coupling correction
  - Assess impact of Q4 field quality
  - Complete scan over triplet aperture