

# Status of DC Calibration

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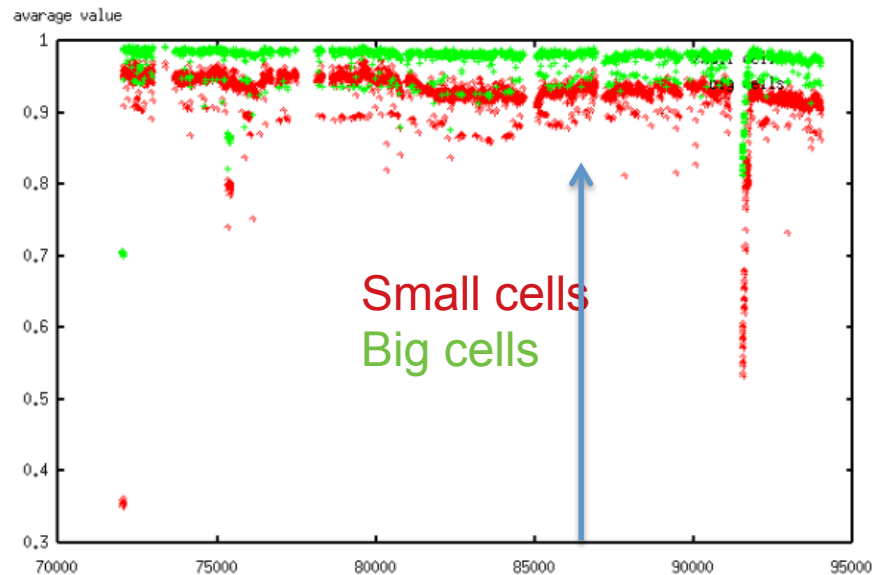
General Meeting 22.09.2018

# Overall situation

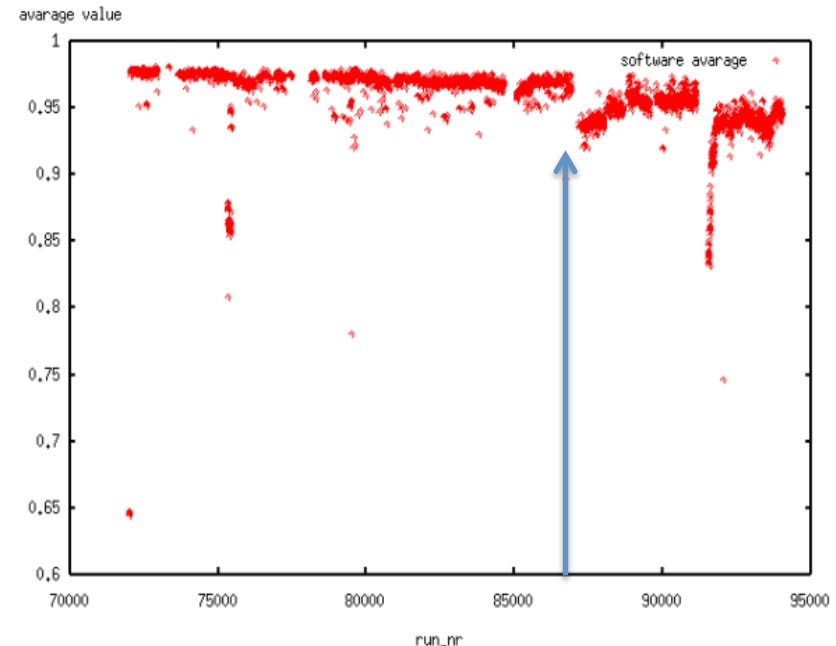
## Average efficiency during the whole KLOE-2 data taking period

- The efficiency (calibration) is more or less stable by the end of 2016 (86600)
  - ✓ Short period with errors in checking the DC voltage (75432-76032)
  - ✓ Short period without calibration due to absence of BRIN bank (79466-81080)

### Average hardware efficiency

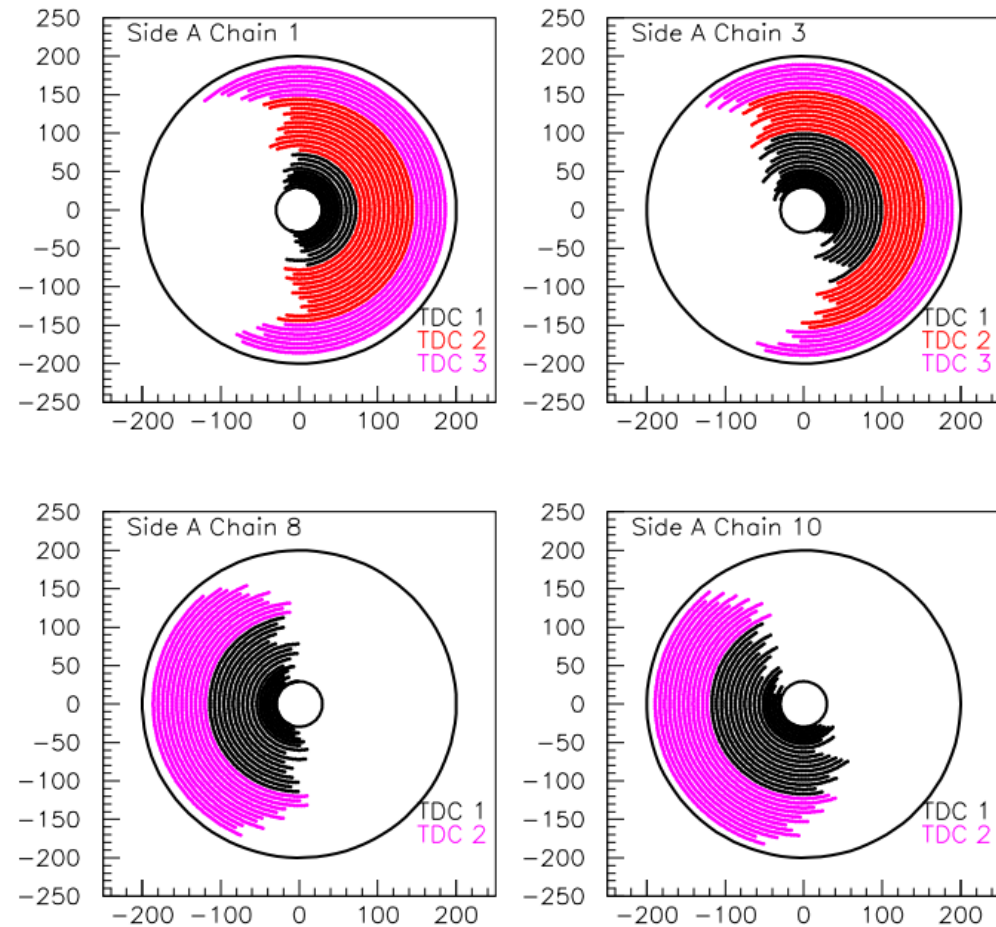


### Average software efficiency



# Then...

- Dec 2016 (around run 86600) → Inner guards was broken, the HV configuration was changed
- Jan 2017 (around run 87020) → New TDCs were installed in Chain 1 Crate 1
- Sep. 2017 → New TDCs installed in Ch3 Cr3 (even outer-most layers), the old TDCs in Ch3 Cr3 moved to Ch1 Cr1 (odd inner layers)
- Wrong  $T_0$ s for Ch1 Cr1 (around 92000)



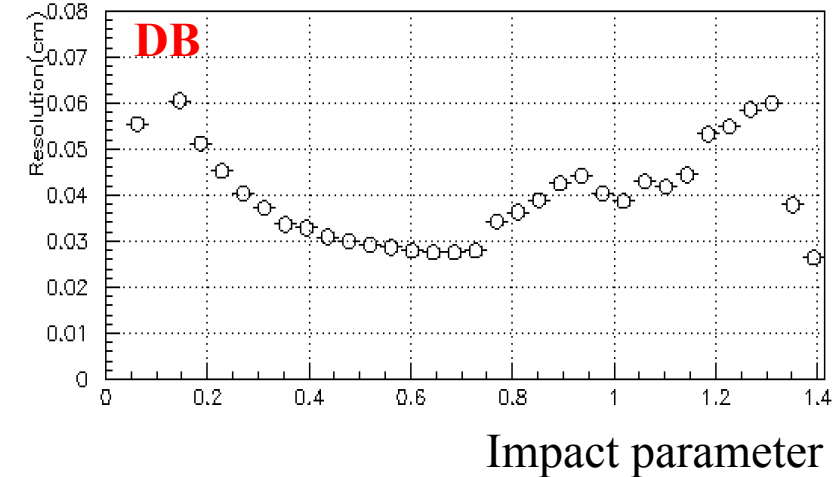
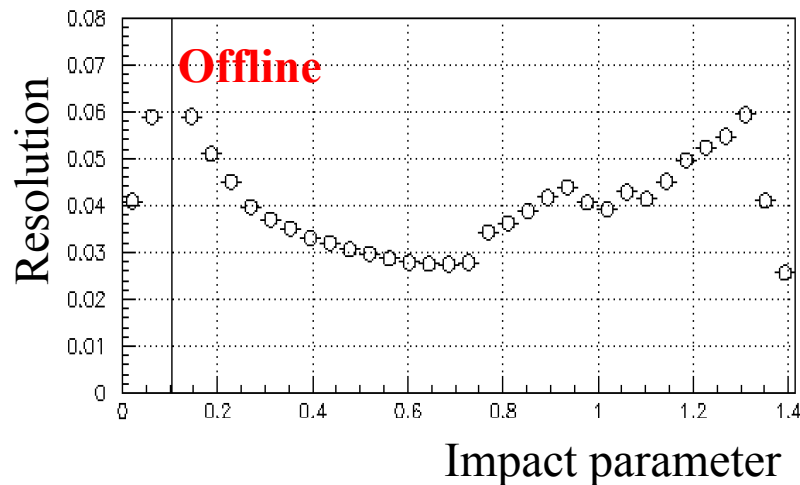
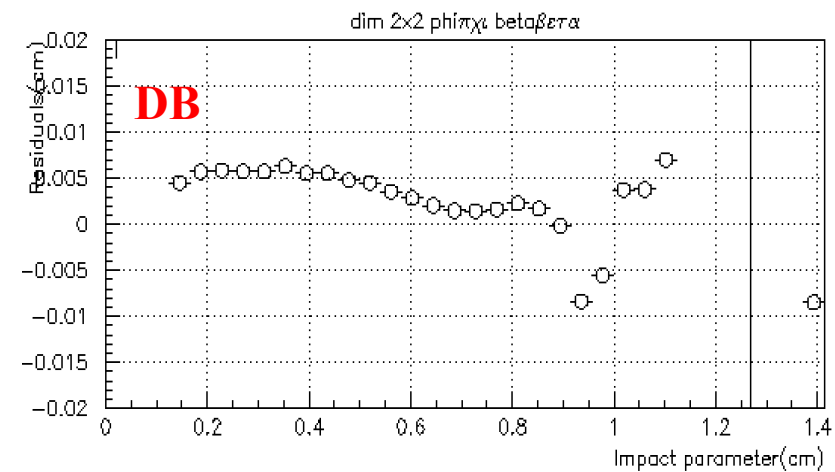
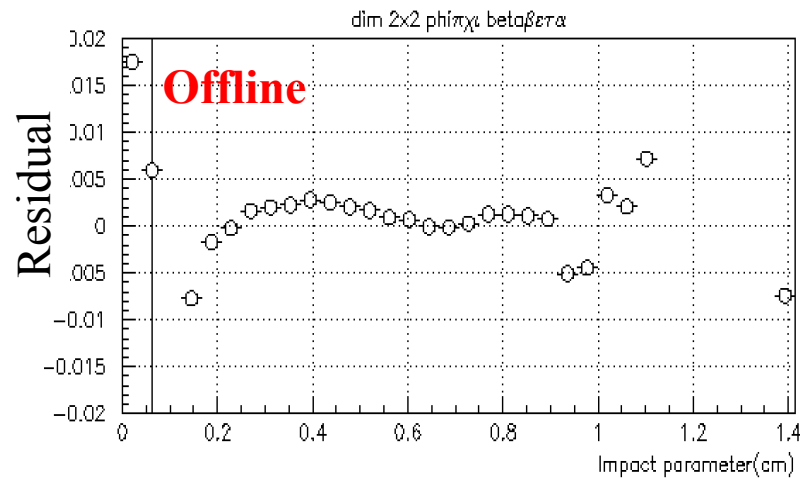
ADS maps by Erika De Lucia

# Recalibration status

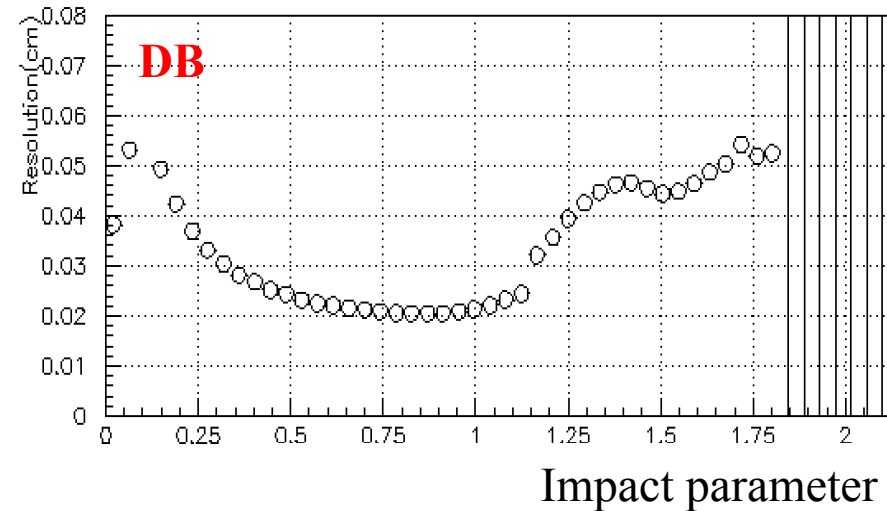
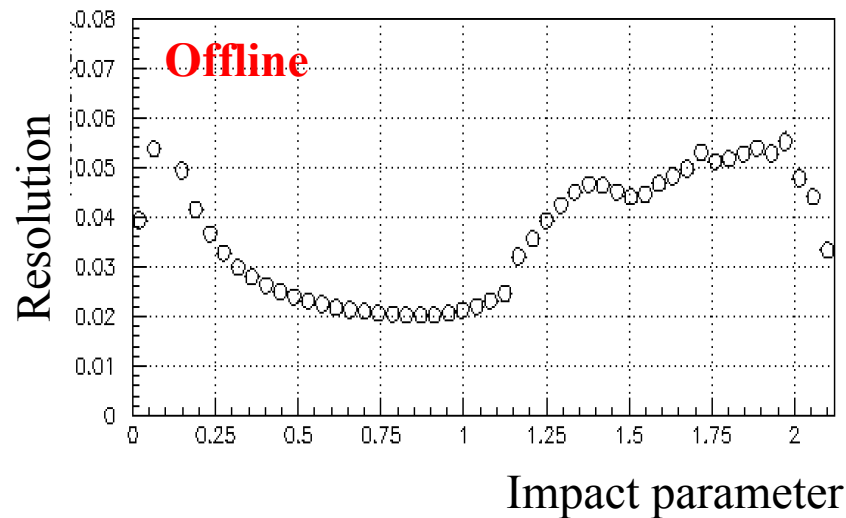
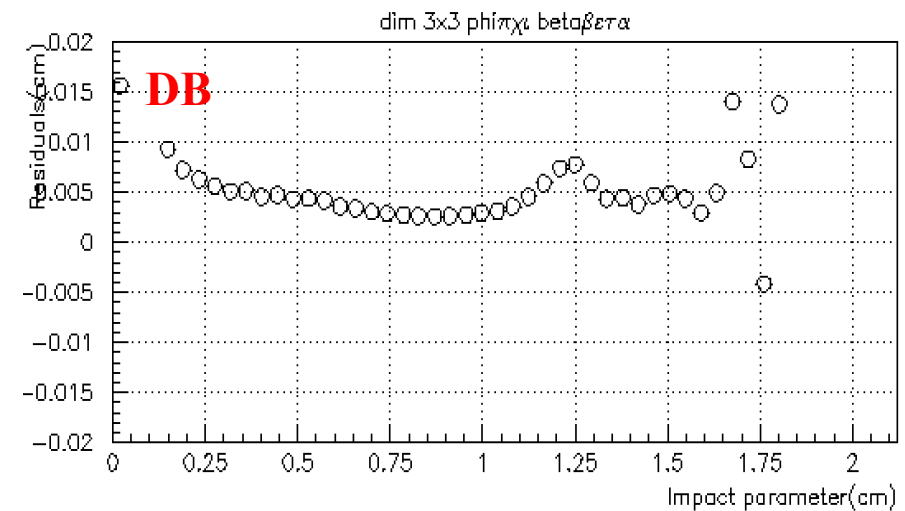
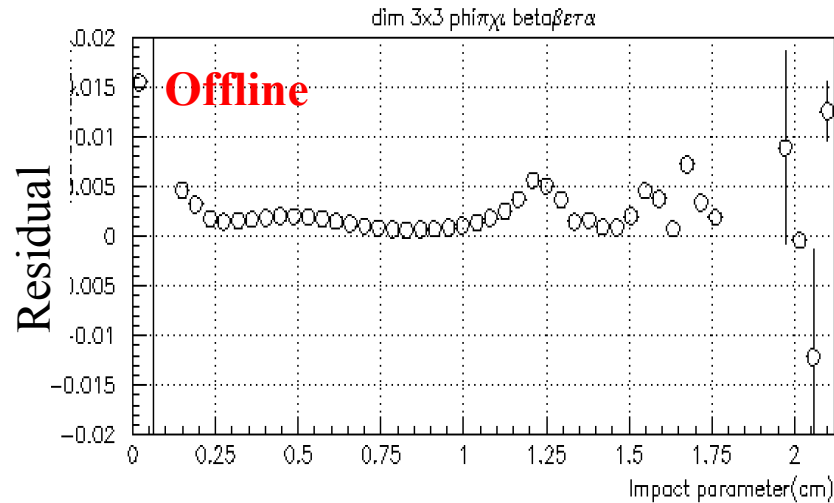
- Finished:
  - with the cosmic taken at 30/09/16 (run85102),  $T_0$ s are updated
    - The x-t calibration updated for the period Oct. 2016 - July 2017
  - with the cosmic taken at 01/11/17 (run92393),  $T_0$ s are updated
    - The x-t calibration updated for the period Nov 2017 - Jan 2018
- Calibration constants are uploaded to the DB with a new version and waiting to flip
- Ongoing:
  - Sep.-Oct. 2017: after exchanges the TDCs, but without  $T_0$  runs
    - $T_0$ s taken at Nov. will be used, need more checks
  - Feb 2018 - Mar 2018, need one more week

# Comparison with DB (run 85185) Small cells

- The residuals as a function of impact parameter is improved
- The resolution at the same level

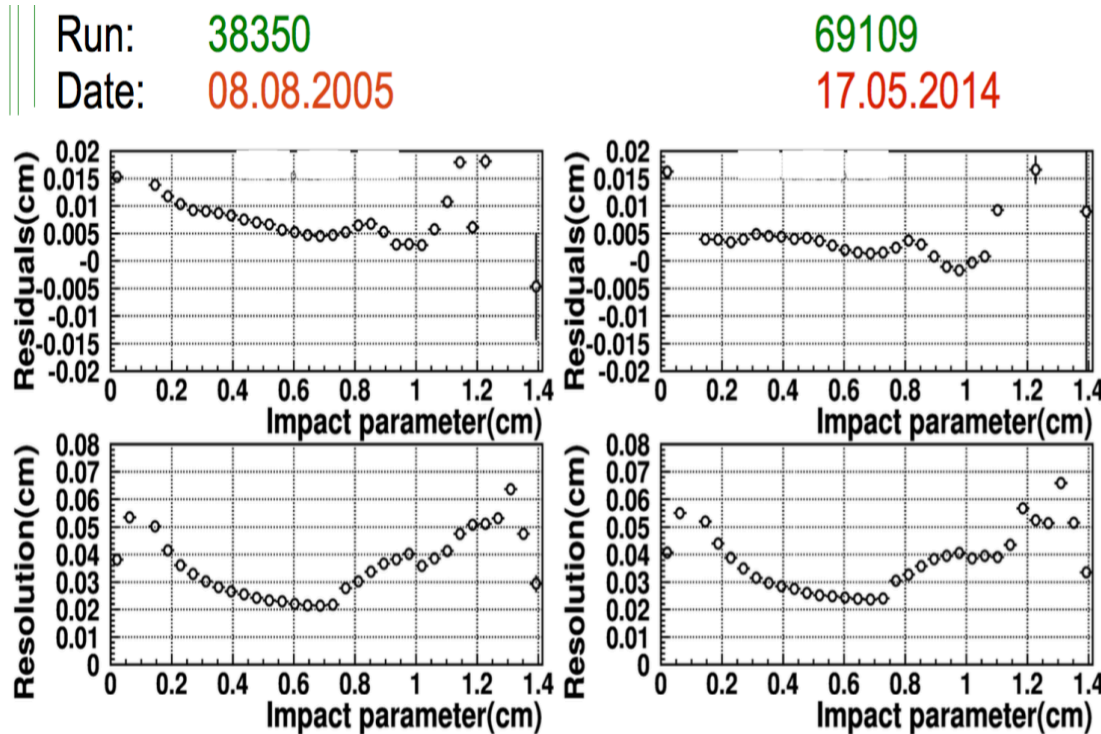


# Comparison with DB (run 85185) Big cells

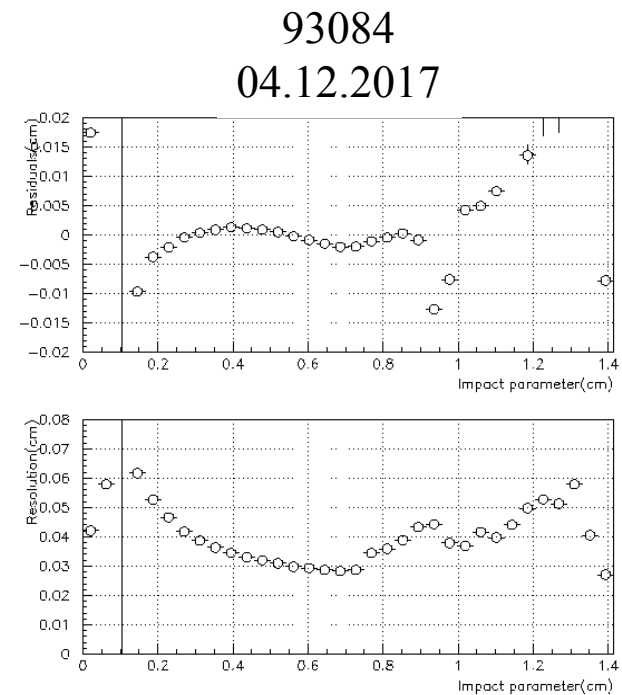


# Comparison with old data      Small cells

- The residuals as a function of impact parameter is at the same the level
- The resolution become slightly worse
  - ✓ Higher background level
  - ✓ Aging problem

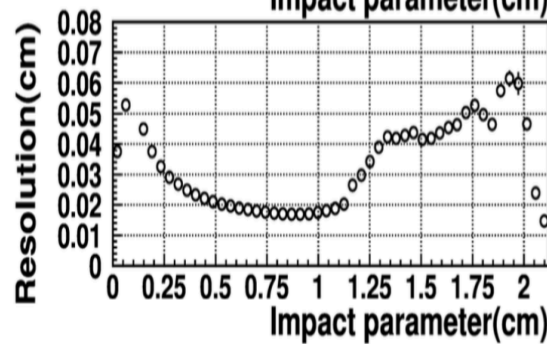
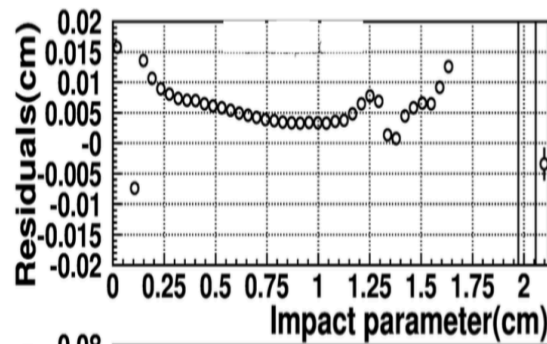


All small cells

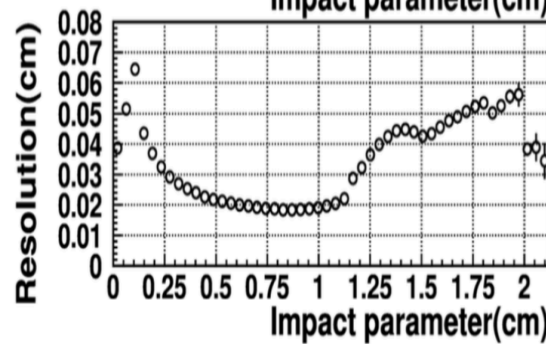
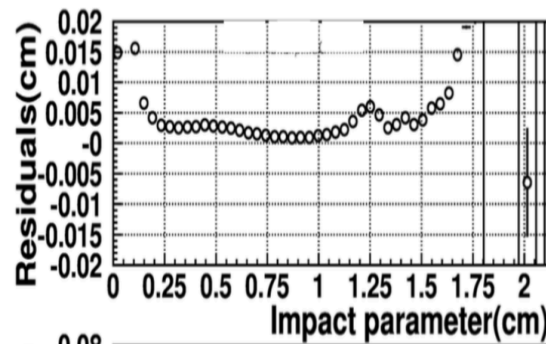


# Comparison with old data    Big cells

Run: 38350  
Date: 08.08.2005



Run: 69109  
Date: 17.05.2014



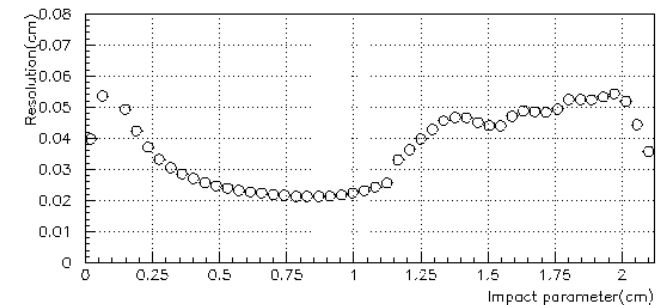
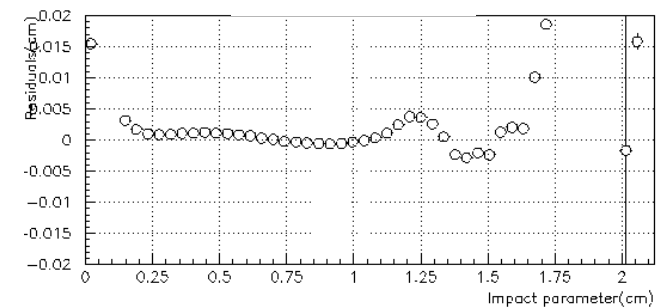
All big cells

30.05.2014

Eryk Czerwiński - Technical board meeting

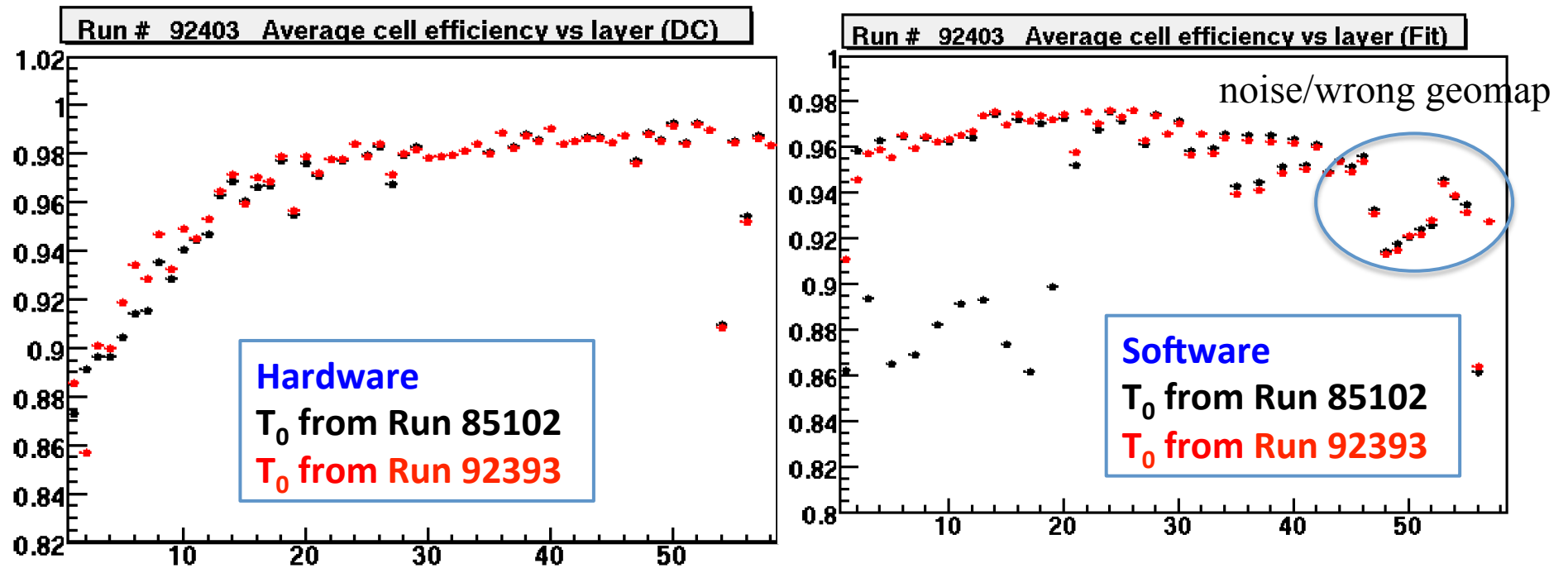
3

Run: 93084  
Date: 04.12.2017





# DC efficiency



The effect from wrong  $T_0$ s on the first odd layers is recovered

# Calibration summary

Run range	Date period	Status	comments
71655-85102	Nov 2014 - Sep 2016	Good (online)	Few period without calibration
85102-91113	Oct 2016 - July 2017	Updated	$T_0$ s obtained from run 85102
91145-92375	Sep 2017 - Oct 2017	ongoing	Not recalibrated due to wrong $T_0$ s, need to check more
92393-94009	Nov 2017-Jan 2018	Updated	$T_0$ s obtained from run 92393
94009-95093	Feb 2018 - Mar 2018	ongoing	one more week

Thank you !!!