



## Observation on DCA312 field angle measurements

M. Kuchnir  
November 13, 1991

A handwritten signature in black ink, appearing to be "MK", is located to the right of the typed name and date.

The FNAL built Collider Dipole Magnet DCA312 was scanned with the field angle probe twice, before and after being cryostated. Unlike for most other magnets there is strong indication that changes occurred during this operation.

The measurements were carried out in the Industrial Central Building (ICB) on October 16, 1991 with the magnet without end-caps and on the rollers cradle and again on November 12, 1991 with the magnet surrounded by its cryostat.

Figures 1 and 2 are the usual double sweeps obtained at these occasions respectively. Attention is called for the region between 190 in. and 210 in. from the center towards the lead-end: a deviation averaging 3 mradians clockwise (as seen from the lead-end) was removed.

A comparison of the final results of both measurements is presented in Figure 3. More indication of changes corresponding to an extra twist from -1 to +1 milliradian can be perceived in the region from -140 in. to +80 in. This indication however is not as clear as the disappearance described in the previous paragraph which does not require averaging for evidence.

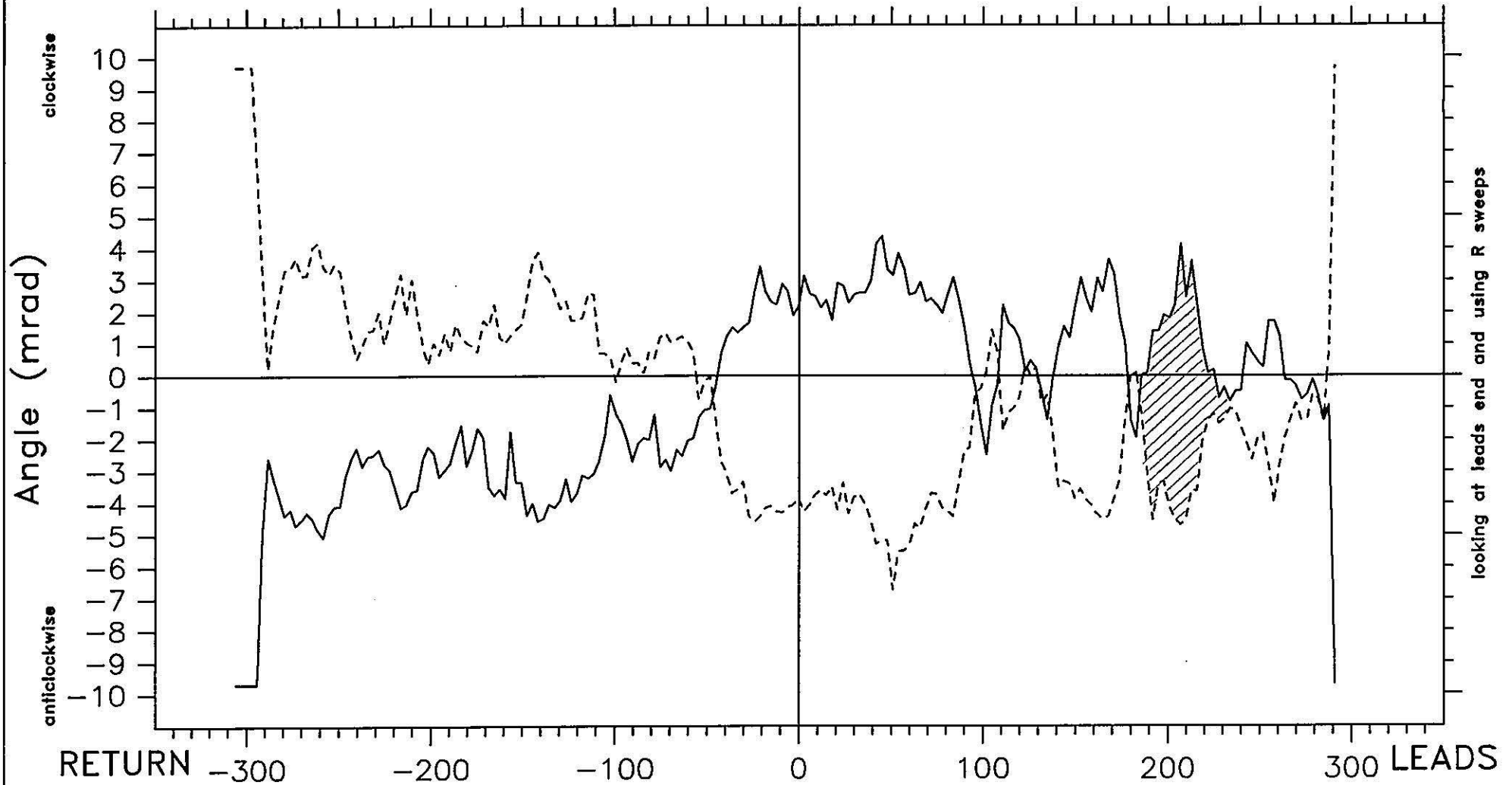
This is not a typical occurrence. It might be a loose winding indication. In the past something similar was observed in magnet DC0202 near its center between Nov. 2, 1990 (before) and Dec.10, 1990 (after cryostated). It would be of interest to re-examine the quench data of DC0202 to see if this observation has any predictive value.

## Distribution:

J. Carson  
W. Koska  
J. Strait

COIL TWIST

Magnet dca312



Position (inch)

DATE dir. COMMENT

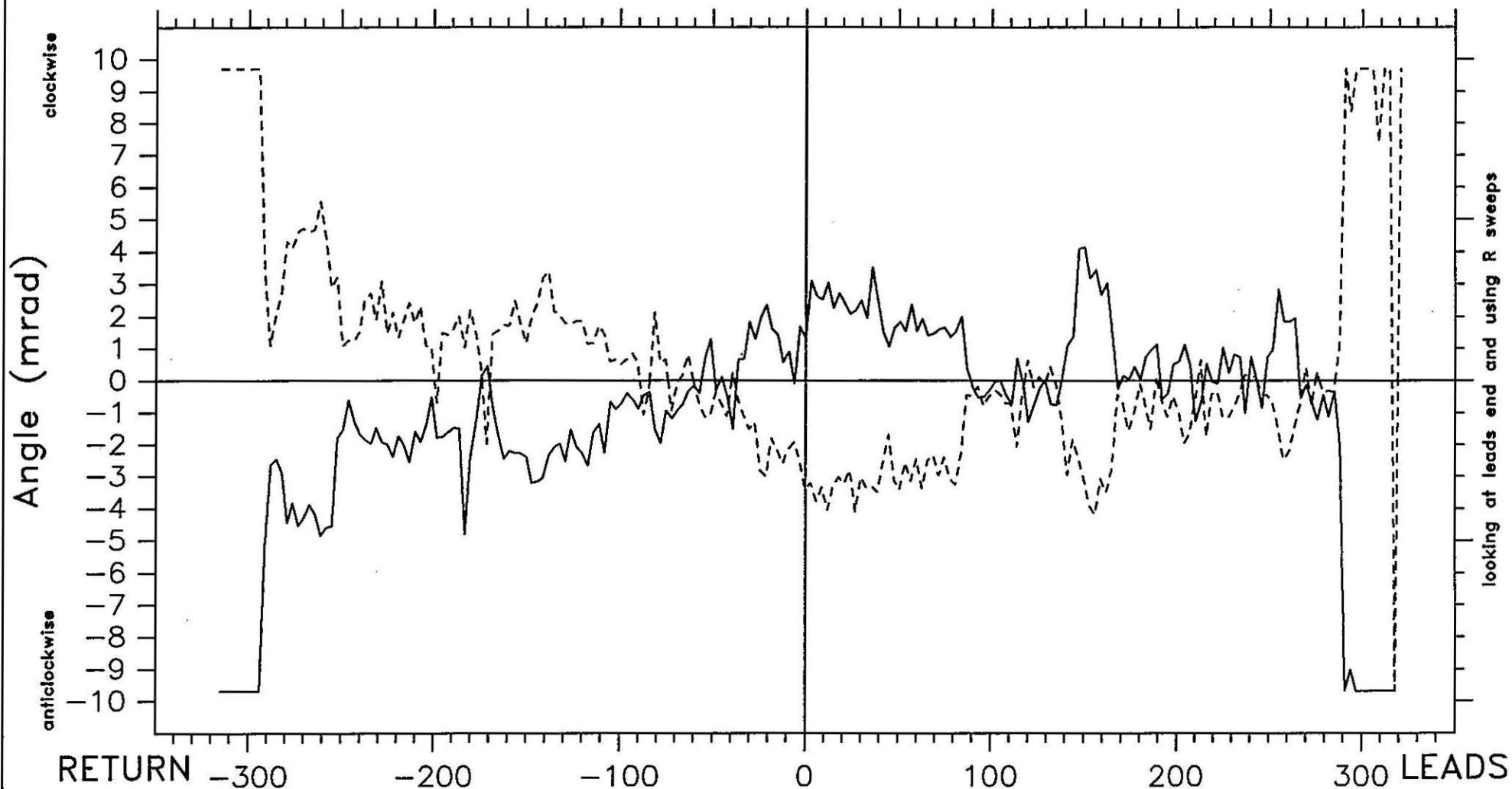
— 911016 R on cradle, no endcap

- - - 911016 L on cradle, no endcap

Figure 1.

COIL TWIST

Magnet DCA312



Position (inch)

DATE dir. COMMENT

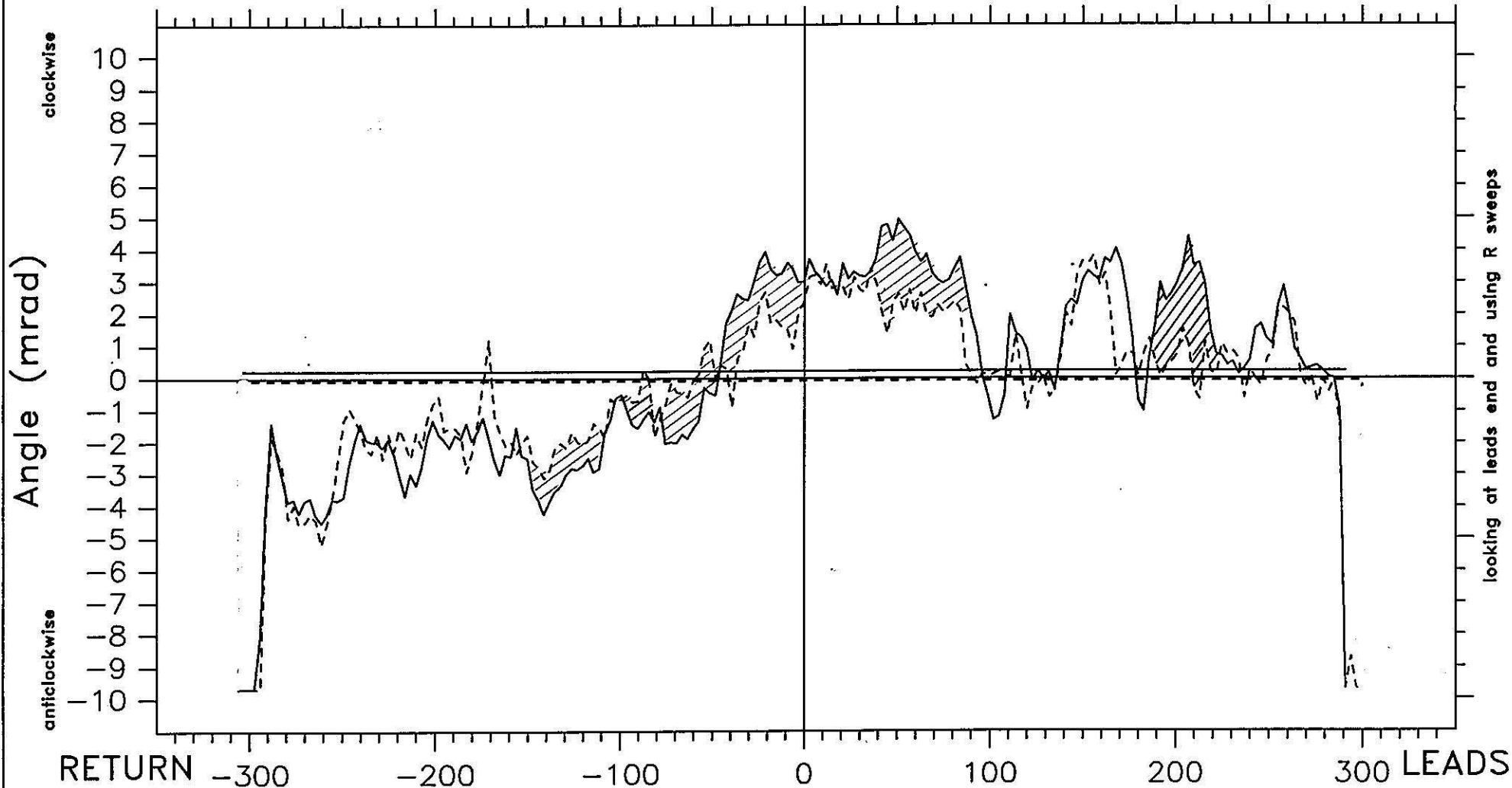
— 911112 R in Cryostat @ICB

- - - 911112 L in Cryostat @ICB

Figure 2.

COIL TWIST

Magnet DCA312



Position (inch)

DATE dir. COMMENT

- 911016 A on cradle, no endcap
- - - 911112 A in Cryostat @ICB

Figure 3.