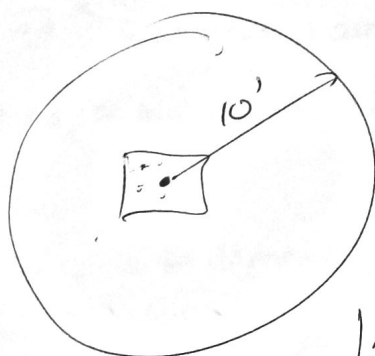


① 22/5/2015

$RA_i^h \rightarrow$ galaxy epoch

$RA^h = \text{median position}$

$$\Delta RA_i^h = RA_i^h - \overline{RA^h}$$



epoch $\rightarrow 56121.3, 56235.$



take all ΔRA_i^h with $\text{MJD}_{2009} - \Delta t < \text{MJD}_{2009} + \Delta t$

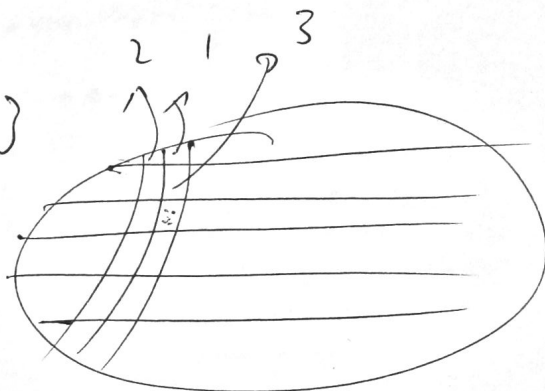
$$\text{MJD}_{2009} - \Delta t < \text{MJD} < \text{MJD}_{2009} + \Delta t$$

$\Rightarrow \overline{\Delta RA_{2009}} \Rightarrow$ median offset of galaxy residuals in 2009 (and 2010, 2011...)

1, 2, 3, 20, 21, 22, 30,

$$\Delta t = \text{MJD}[1: \text{MJD}] - \text{MJD}[0: -1]$$

2, 3, 20, 21, 22, 30
= 1 2 3 20 21, 22



$$\Delta t = 1, 1, \underline{17}, 1, 1, 18$$

[3]

$$t_{\text{BREAK}} = \text{MJD}[3]$$

indx = ~~RA~~ that have $\text{MJD} < \text{MJD}[3]$

$$RA_{e, \text{NEW}}^h = RA_{2009}^h - \overline{\Delta RA_{2009}}$$

HEALPIX