Overall Trigger and Latching Efficiencies of

Large Area Telescope

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T. Kamae, G. Godfrey, T.Mizuno, H. Takahashi, H. Tajima

Plan for theTwo Tower Test and the Full LAT Test

Condition:

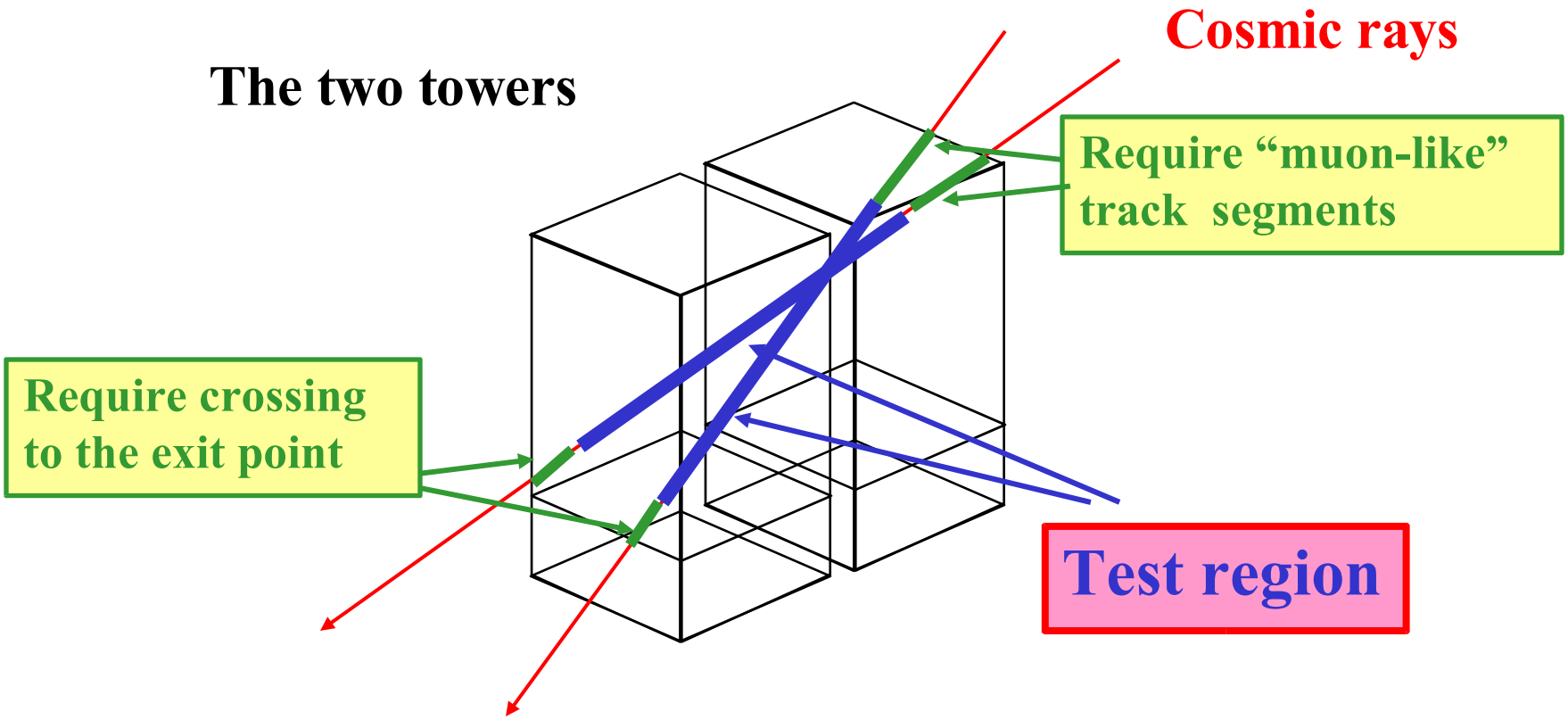
3. Minimum interference with LAT I&T activity and data taking.
4. Independent (autonomous) monitoring throughout the entire I&T period.
5. Zero cost in M&S.

Objective:

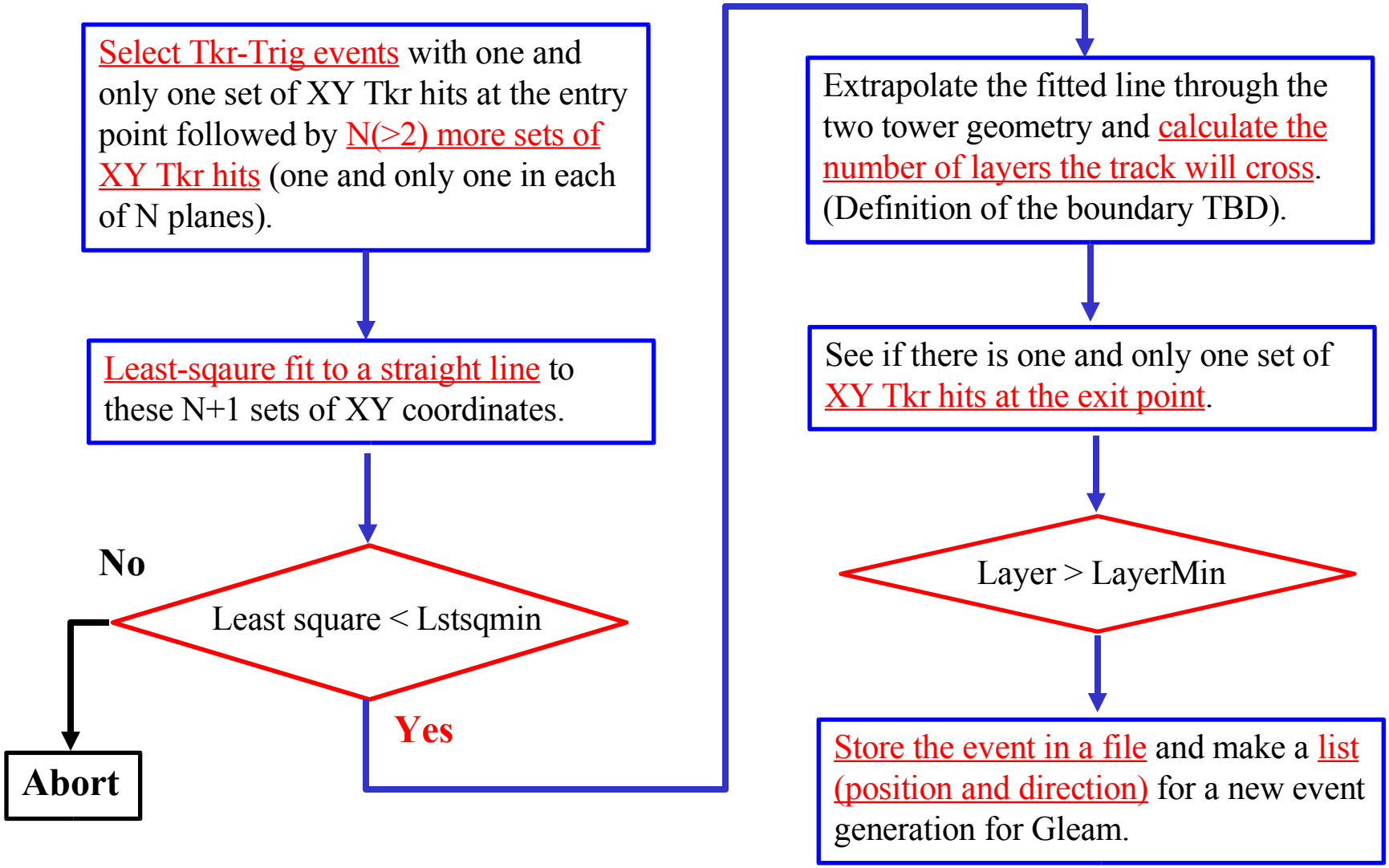
7. Estimate overall “trigger”/“latching” eff. with cosmic ray muons to ~1% level
8. Compare local “trigger”/“latching” eff. with prediction by Gleam to ~1% level

Method No. 1: Test without Muon Telescope

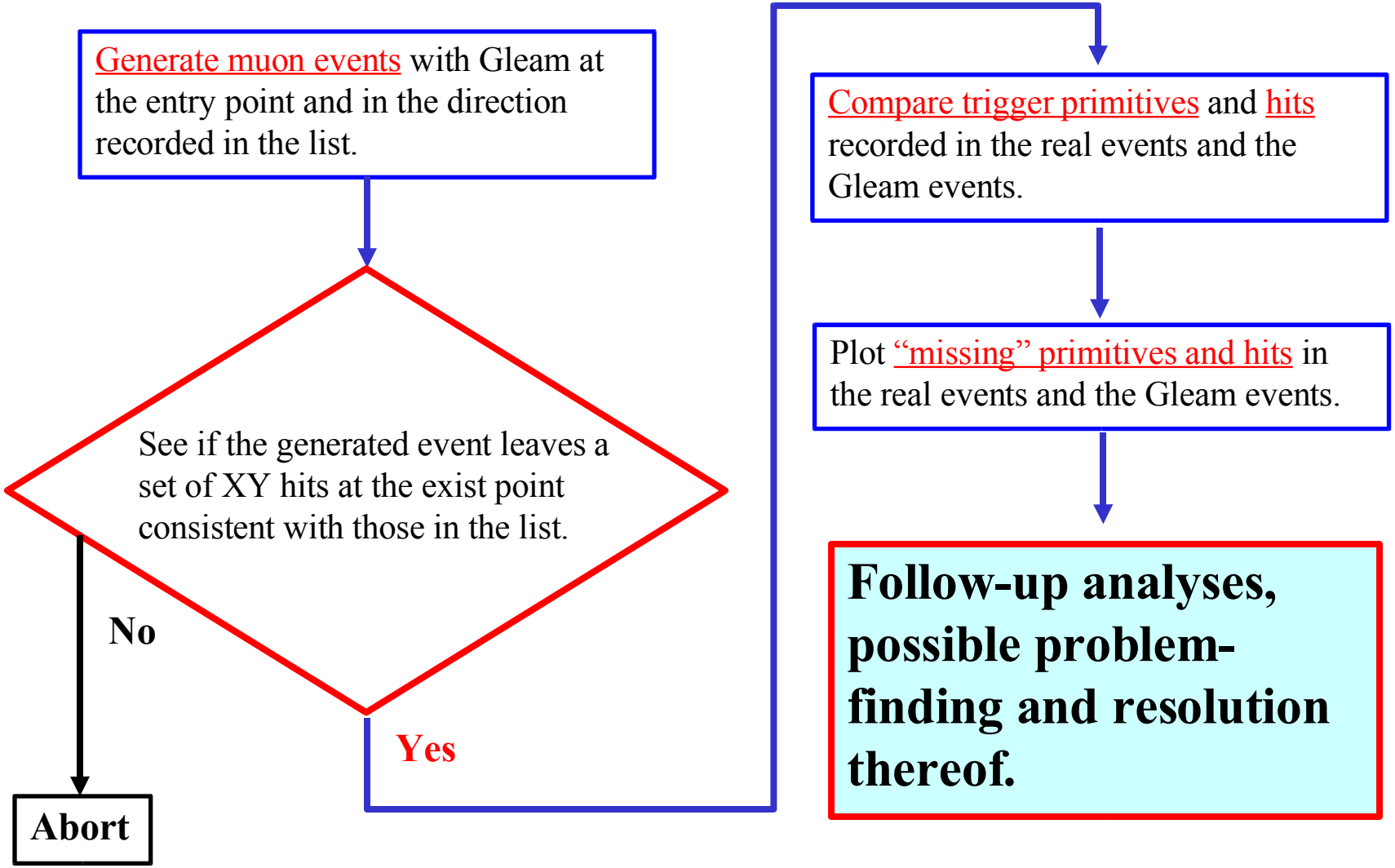
- Local Efficiency Mapping -



Method No. 1: Taking Data on Towers

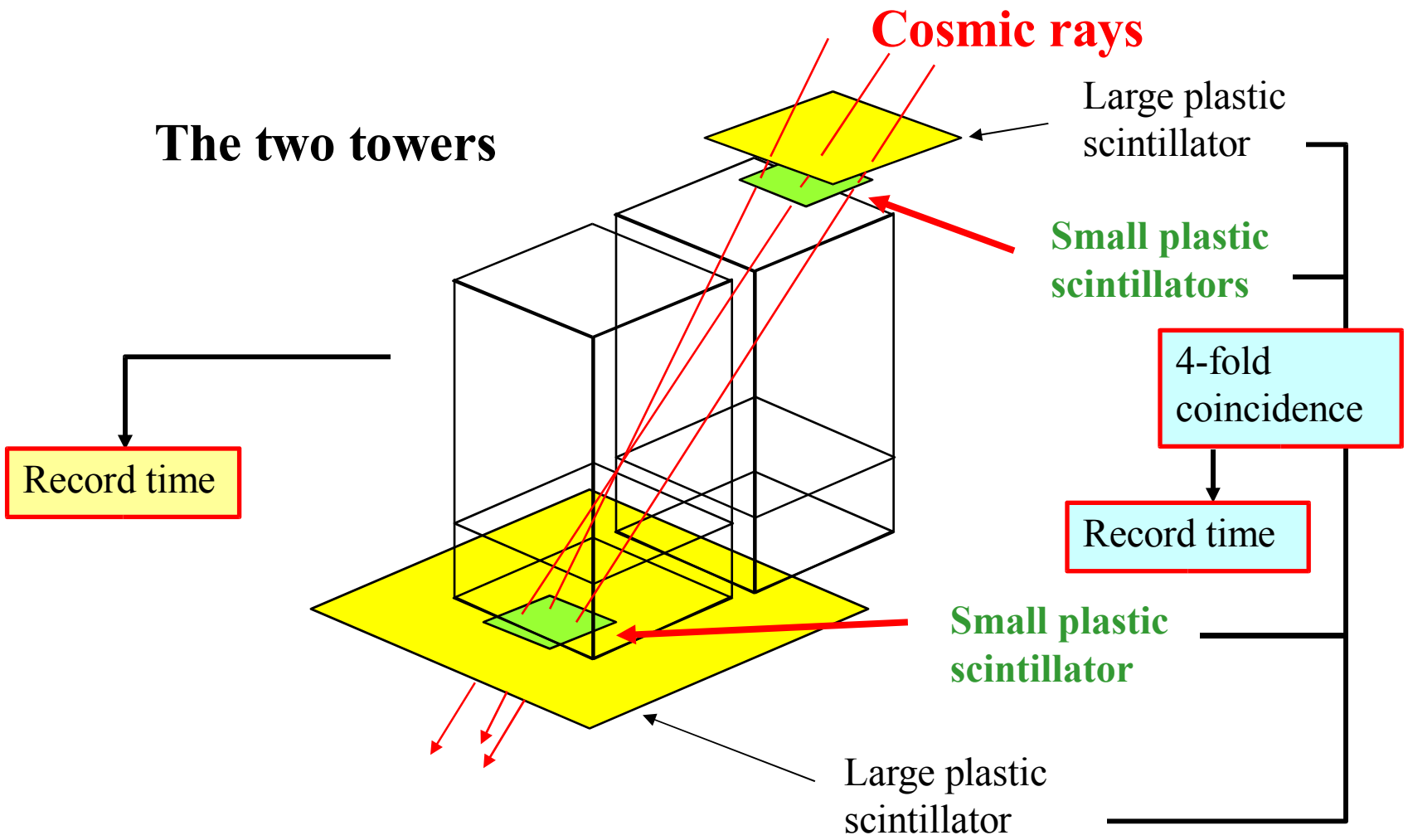


Method No.1: Running Monte Carlo

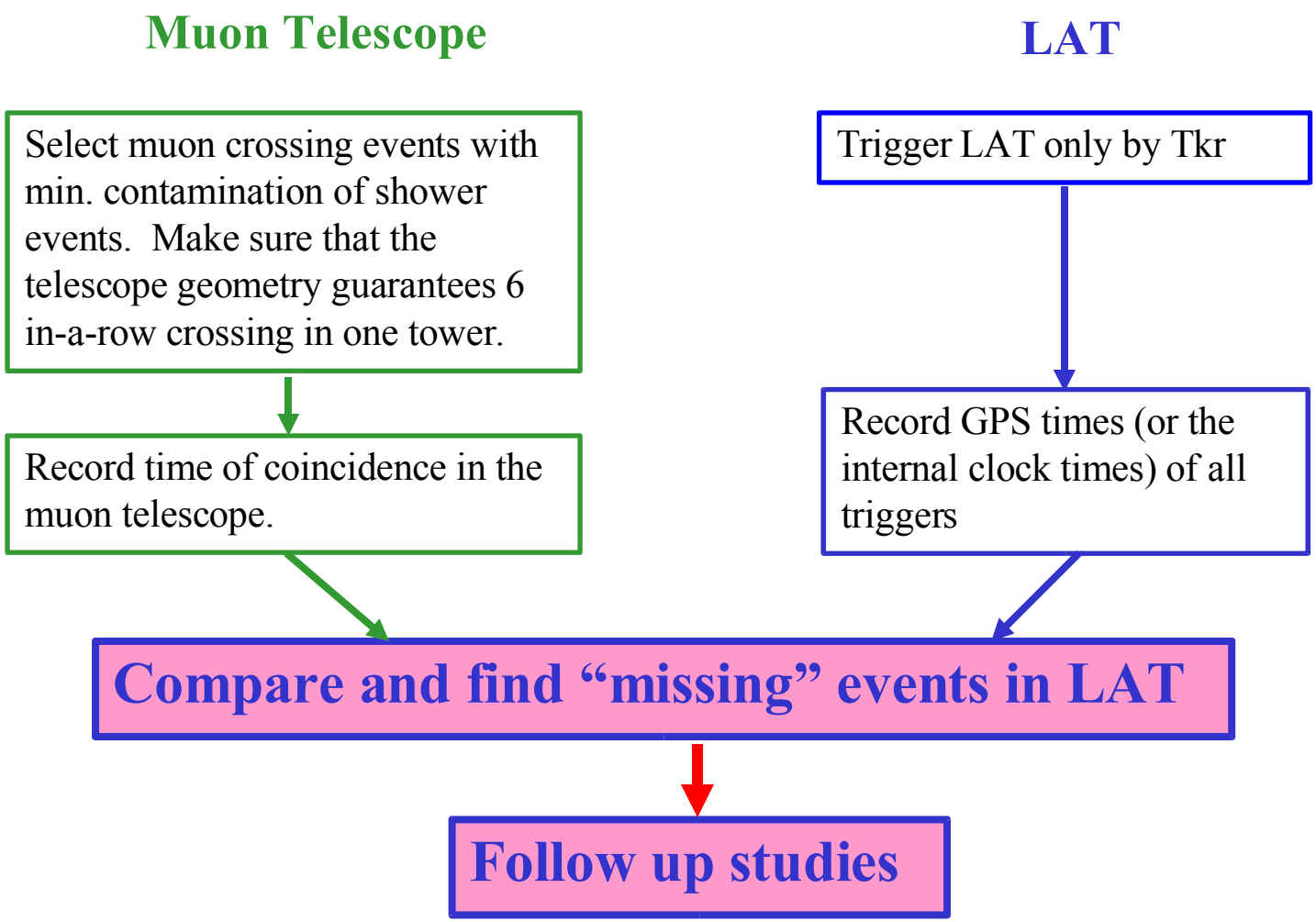


Method No. 2: Test with Muon Telescope

- Unbiased Overall Efficiency -



Method No. 2: Matching Two Time Sequences



Expected Results from the Two Methods

Method No.1

3. “Trigger and latching inefficiency distribution” for each layers. (Here “inefficiency” means missing Trigger Primitive or Hit.)
4. Inter-tower latching inefficiency distribution.

Method No.2

8. Overall trigger/latching inefficiency.
9. Overall dead time.