## Event-plane determination with the new ALICE FIT detector

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## Run $2 \rightarrow$ Run 3

- Run 2: VZERO

- Run 3: Fast Interaction Trigger (FIT)


VZERO and FIT drawn at the same scale, please notice the significant increase in the size of FV0 scintillator ring

## Event-plane in heavy-ion collisions

- The reaction plane (RP) of the collision = plane determined by the beam axis and the impact parameter
- Cannot be determined precisely
$\rightarrow$ estimation from final particle spectra called the event plane (EP)


- The event-plane resolution measures the difference between RP and EP
- The resolution is affected by the multiplicity of the event, secondary particles, and detector effects


## Event-plane resolution of FIT

$\mathrm{R}_{2}$ (=event-plane resolution) simulated previously at 2.76 TeV



- FIT event-plane resolution for Run 3 is being studied via simulations at 5.5 TeV
- Heavy-ion collisions are generated using the AMPT* model
- With this model particles from the collisions are transported through the detector geometry implemented in $\mathrm{O}^{2}$ that is the ALICE simulation and analysis software for Run 3
- These simulated detector signals give a realistic estimation of how FIT would perform in the future

