

# STAR Beam Use Request FCV Highlight

### Constraints the heavy ion collisions initial state



### Expand the discussion to include the $v_n$ - $p_T$ correlations

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Constraints the heavy ion collisions initial state

Proposal for the current BUR:

Haojie Xu and Chunjian



Constraints on the neutron skin thickness and nuclear deformation using isobaric collisions



Constraints the heavy ion collisions initial state



Proposal for the current BUR: Flow decorrelation observables



### Flow correlations and fluctuations



Expand the discussion to beam energy and system-size

e-Print:2201.10365



#### Higher-order flow harmonics of identified hadrons in Au+Au collisions e-Print:xxx.xxxx e-Print:2203.07204





## Splitting of charge dependent directed flow



QM22 Ashik Ikbal and Diyu Shen

Combination of transport-free hadrons show splitting at various electric charge differences



## Polarization and spin alignment



#### QM22

#### Subhash Singha, Takafumi Niida



## Collectivity in $\gamma$ +Au collisions

Di-hadron correlations studied in photonuclear processes using Au+Au at 54.4 GeV

QM22



### Chiral magnetic effect search in isobar collisions

M. Abdallah et al. (STAR Collaboration), Phys. Rev. C 105 (2022) 1, 014901



➢ No pre-defined signature of CME is observed in isobar collisions, possible residual signal due to change of baseline & non-flow effects are under study



## Number fluctuations:



### Measurement of the Deuteron Number Fluctuations:

