

# Observation of gamma-ray sources with DAMPE

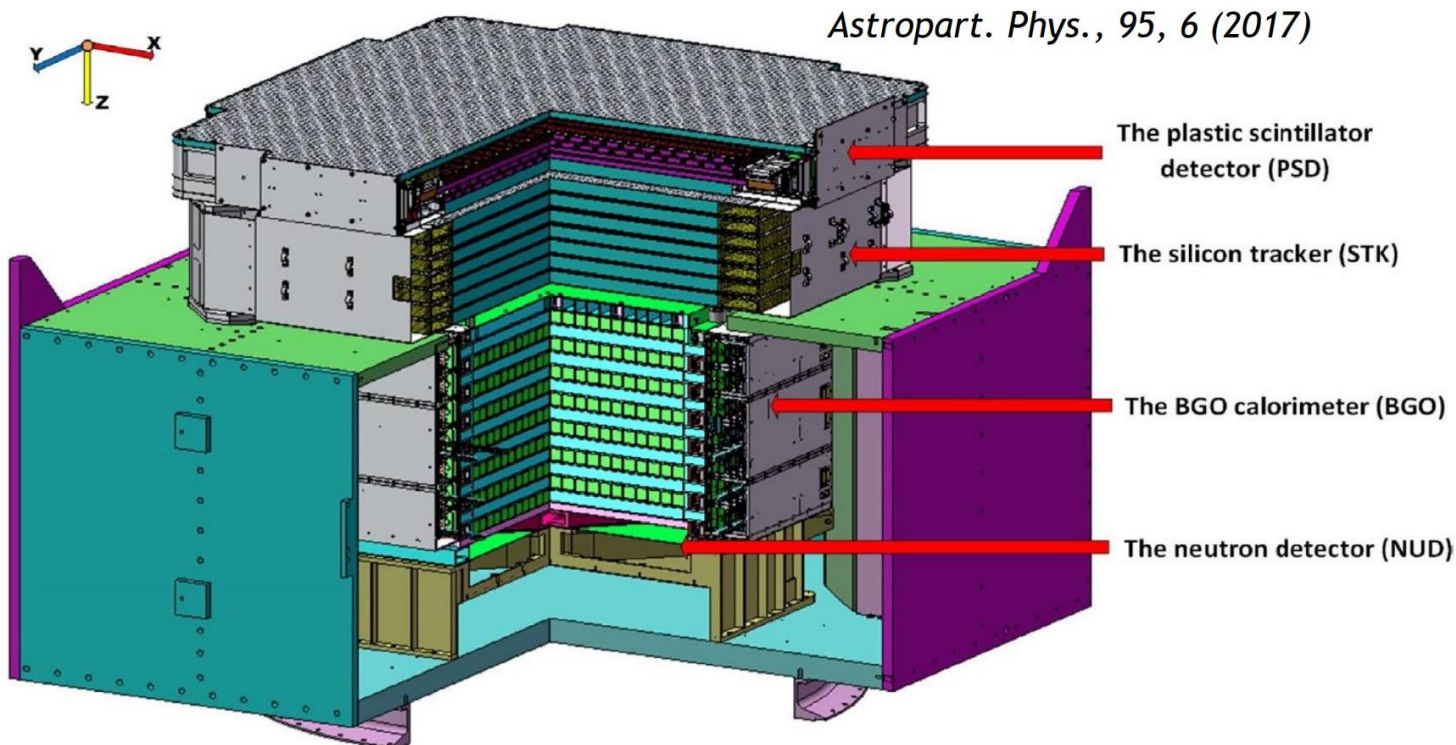
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Xu Zun-Lei

(on behalf of the DAMPE collaboration)



# Dark Matter Particle Explorer (DAMPE)



- PSD: charge measurement via  $dE/dx$  and ACD for photons
- STK: track, charge, and photon converter
- BGO: energy measurement, particle (e-p) identification
- NUD: Particle identification

# Performance for $\gamma$ -ray Observations

Effective area:

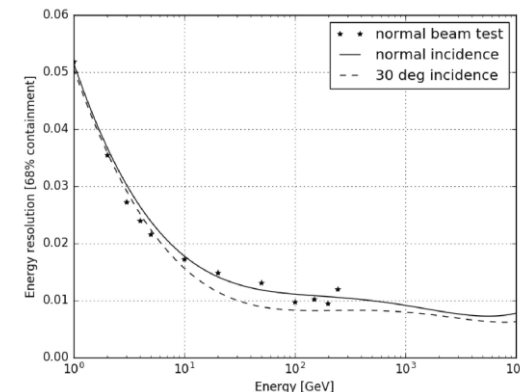
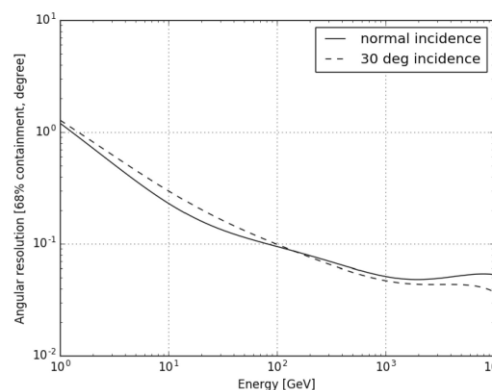
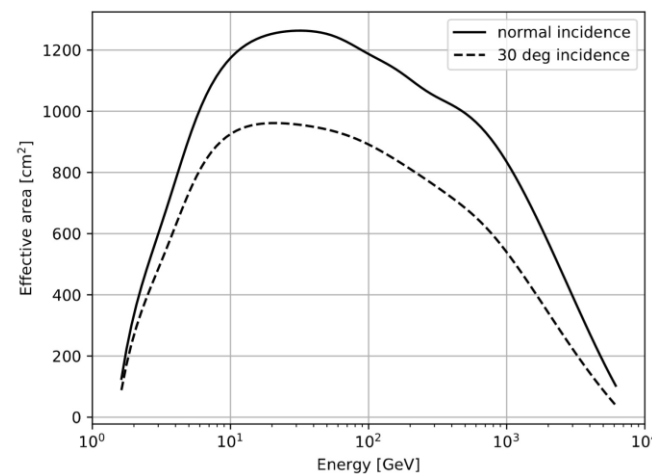
$\sim 1200 \text{ cm}^2 @ 100 \text{ GeV}$

Angular resolution:

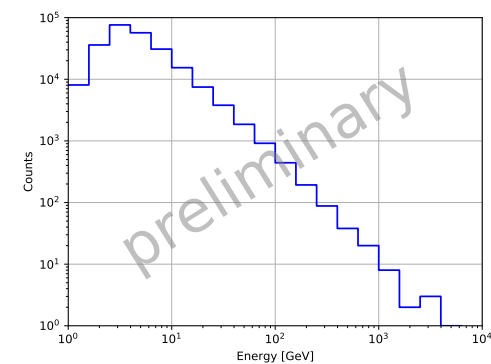
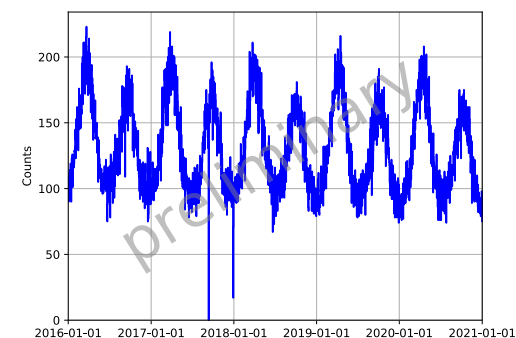
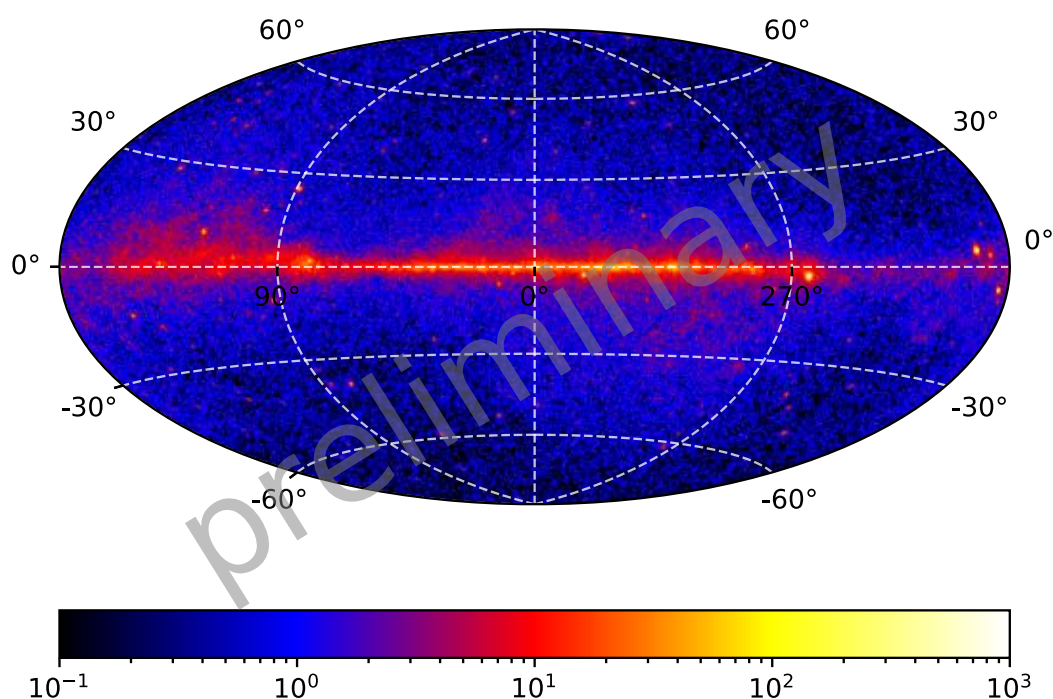
$\sim 0.1 \text{ degree} @ 100 \text{ GeV}$

Energy resolution:

$\sim 1\% @ 100 \text{ GeV}$

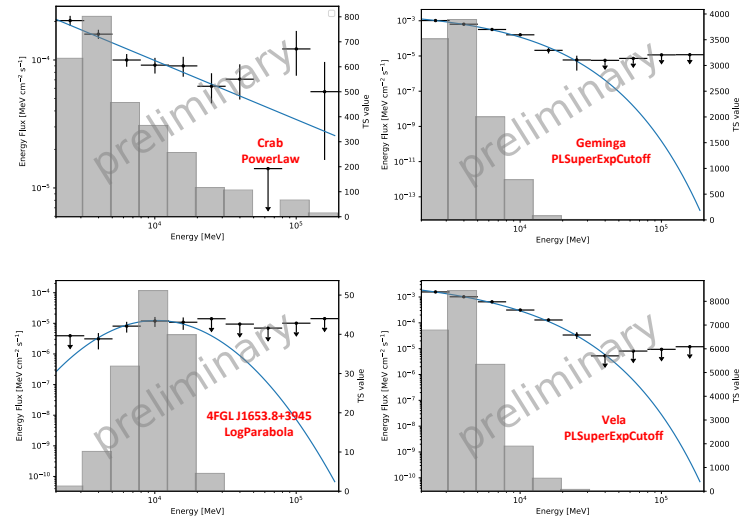
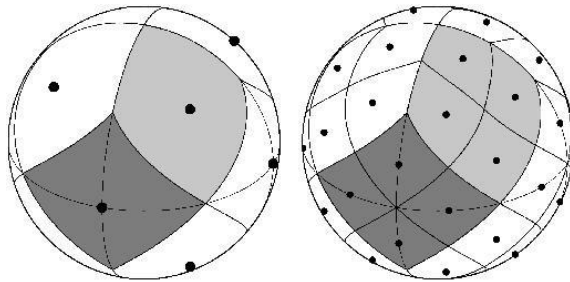


# First 5-yr gamma-ray data



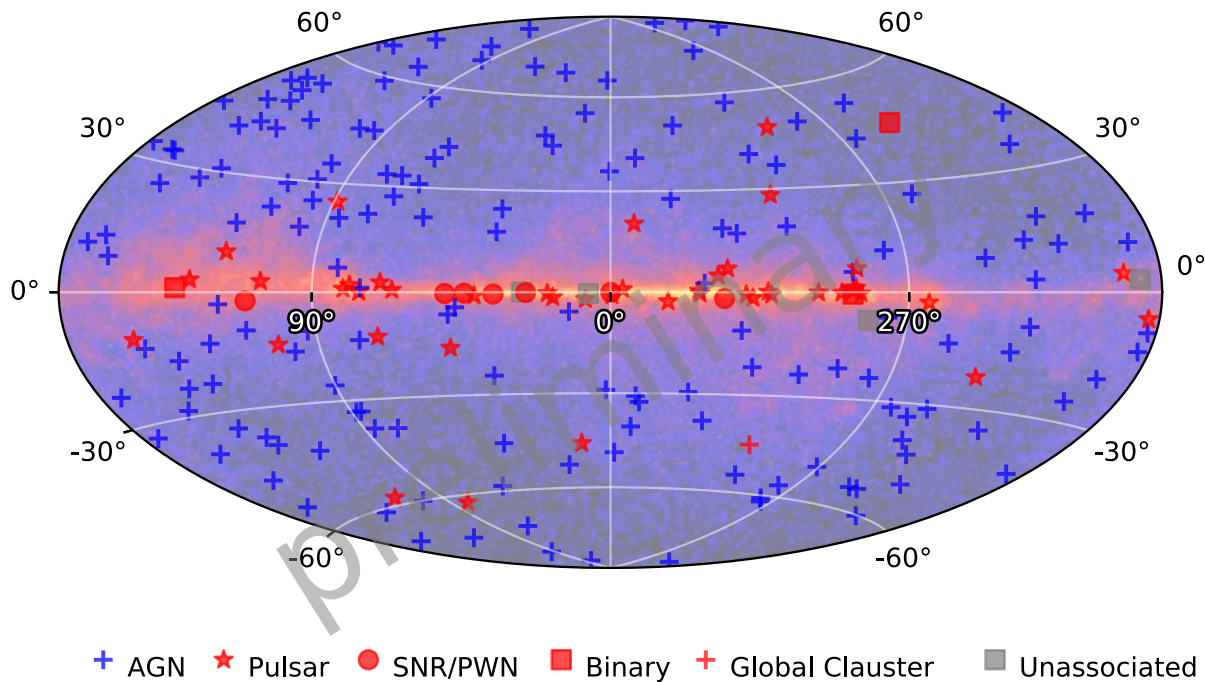
**120 M** seconds livetime and more than **220,000** photons above 2 GeV

# Blind Search for gamma-ray sources



We fit the sources with PowerLaw, LogParabola, PLSuperExpCutoff spectra, find one source favors LogParabola and two sources favor PLSuperExpCutoff spectra.

# Detection of gamma-ray sources



AGN	Pulsar	SNR and/or PWN	Binary	Globular Cluster	Unassociated	Total
163	44	7	3	1	4	222