

Raw Counts

 Y

Delta Method

 $\log(y/s + 1)$

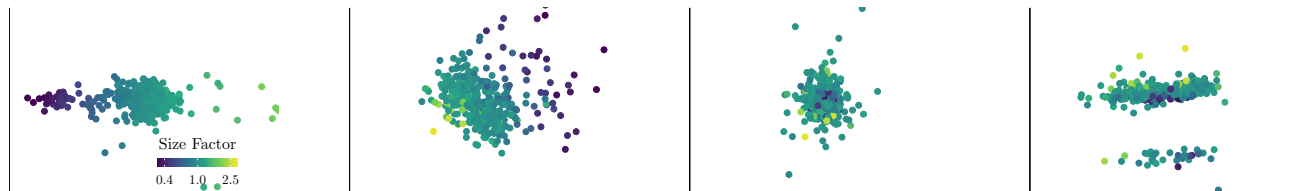
GLM Residual

$$\frac{y - \mu}{\sqrt{\mu + \alpha \mu^2}}$$

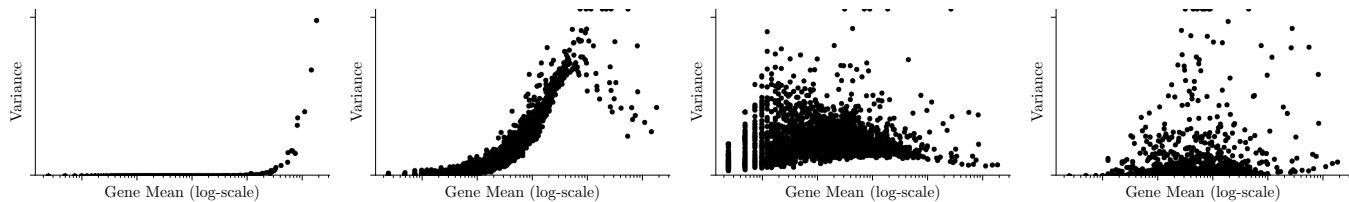
Latent Expression

$$Y \sim \text{Poisson}(M)$$
$$M \sim \text{LogNormal}(\mu, \sigma^2)$$

(A) Residual structure due to sequencing depth of a RNA solution encapsulated in droplets



(B) Mean-variance relation of transformed values for 2,597 genes of the GSE130931 dataset



(C) Distribution of transformed values for one gene (Sftpc) with a bimodal expression pattern in lung epithelium

