Poisson Point Process
$I(\Omega|\boldsymbol{\theta})$: Model intensity
$N(\Omega)$: Statistical noise
$\Sigma(\Omega, \Omega')$: Systematic covariance
$\mathcal{E}(\Omega)$: Exposure

Fisher Information Matrix
$\mathcal{I}_{ij}(\boldsymbol{\theta}) = -\left\langle \frac{\ln \mathcal{L}(\mathcal{D}|\boldsymbol{\theta})}{\partial \theta_i \theta_j} \right\rangle_{\mathcal{D}(\boldsymbol{\theta})}$

Additive component

Effective Counts
$\mathcal{I}(\boldsymbol{\theta}) \rightarrow (s_i(\boldsymbol{\theta}), b_i(\boldsymbol{\theta}))$

Information Geometry
$g_{ij}(\boldsymbol{\theta}) = \mathcal{I}_{ij}(\boldsymbol{\theta})$

Information Flux
$\mathcal{F}(\Omega|\boldsymbol{\theta})_{ij} = \frac{\delta \mathcal{I}(\boldsymbol{\theta})_{ij}}{\delta \mathcal{E}(\Omega)}$

Exclusion limits

Discovery reach

Model likelihood

Strategy optimization & experimental design

Discrimination power
$V = \int d\boldsymbol{\theta} \sqrt{\det g_{ij}(\boldsymbol{\theta})}$

Trial factors

Confidence contours
$\simeq$ equal geodesic distance contours