Grid-based exploration of cosmological parameter space

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Outline

1 Introduction
- Parameter estimation
- CosmoMC

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2. Snake
   - About Snake
   - 2D stepping illustration
   - A more complicated 2D test distribution

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   - Early plots
   - Later plots
   - Current state

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4. Future work

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- Compare theories to observations

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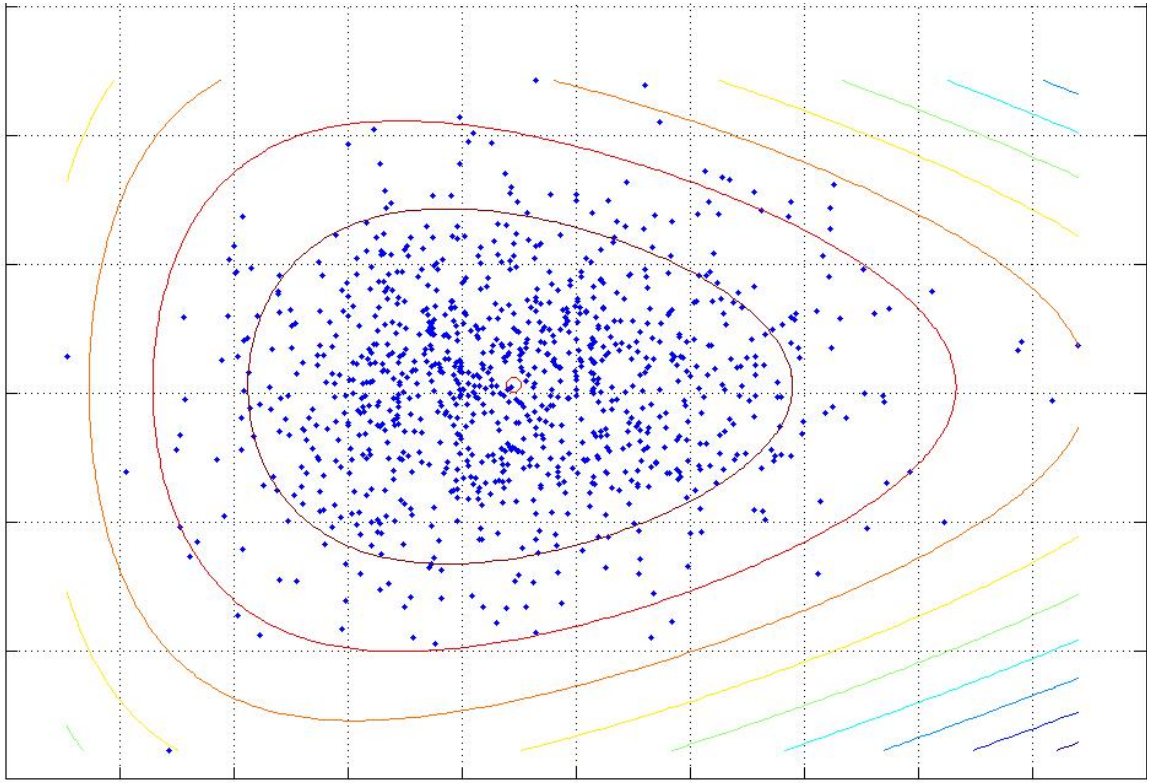
- Many samples at high likelihood
  Few samples at low likelihood



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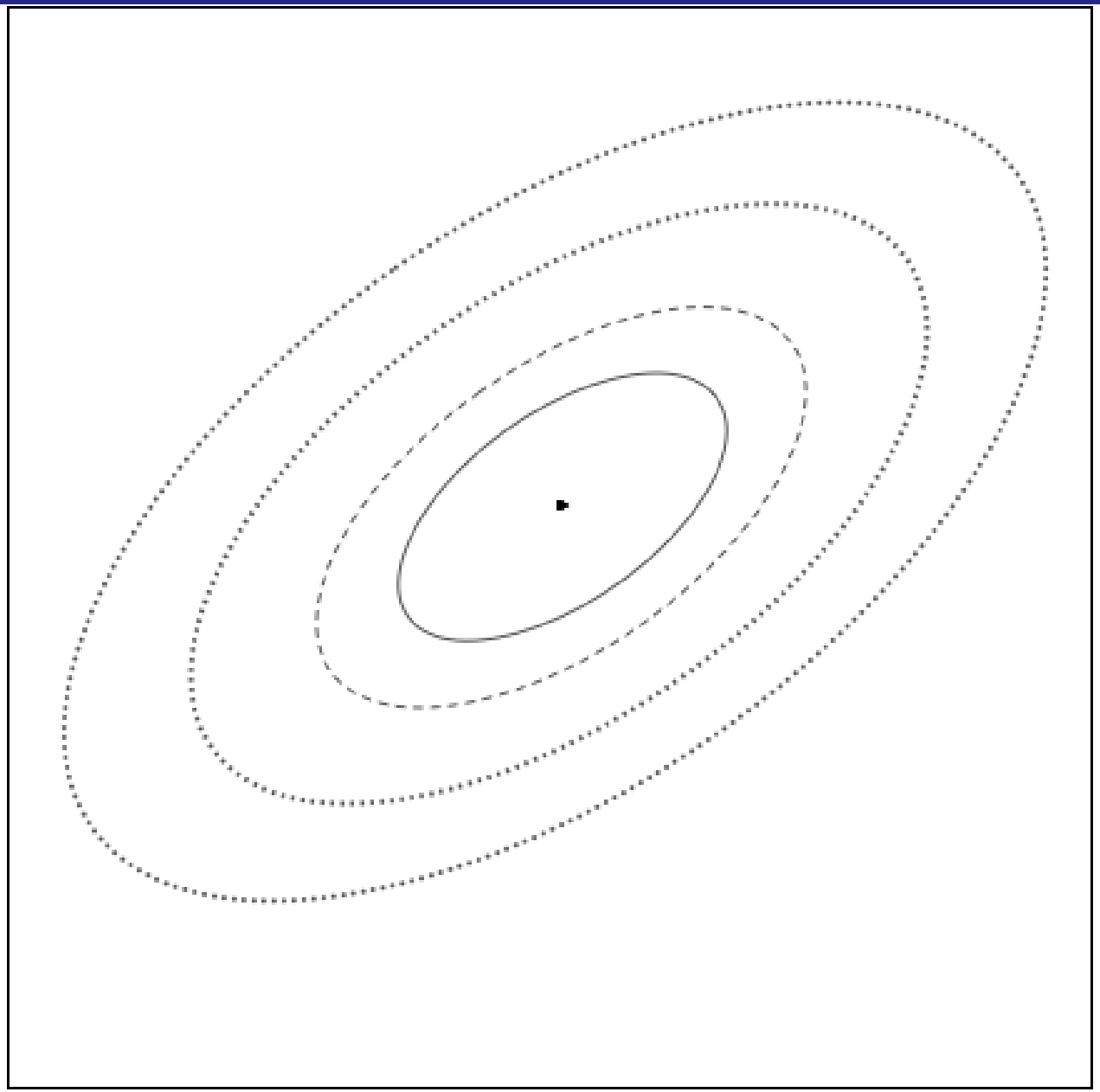
2D stepping illustration



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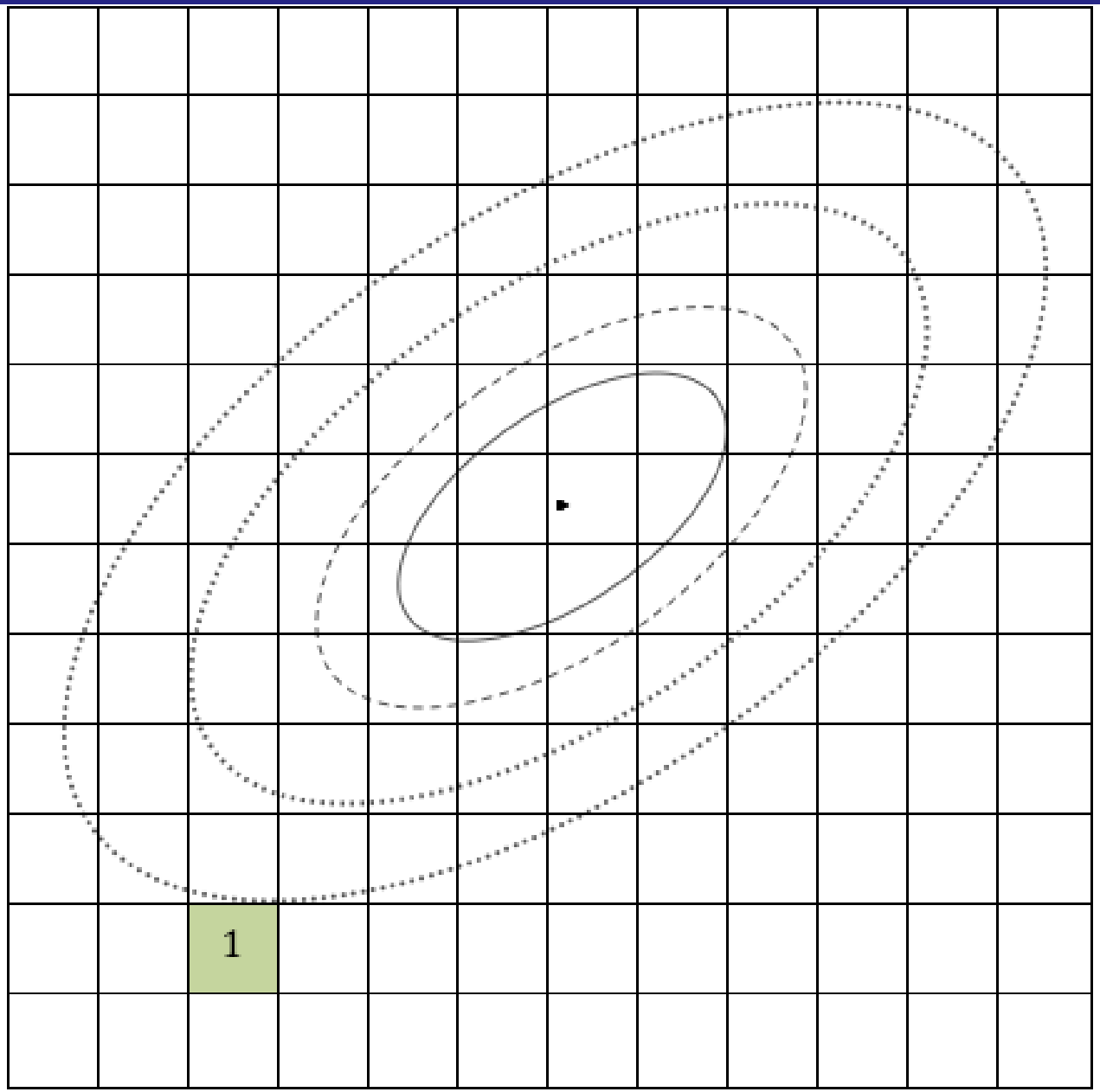

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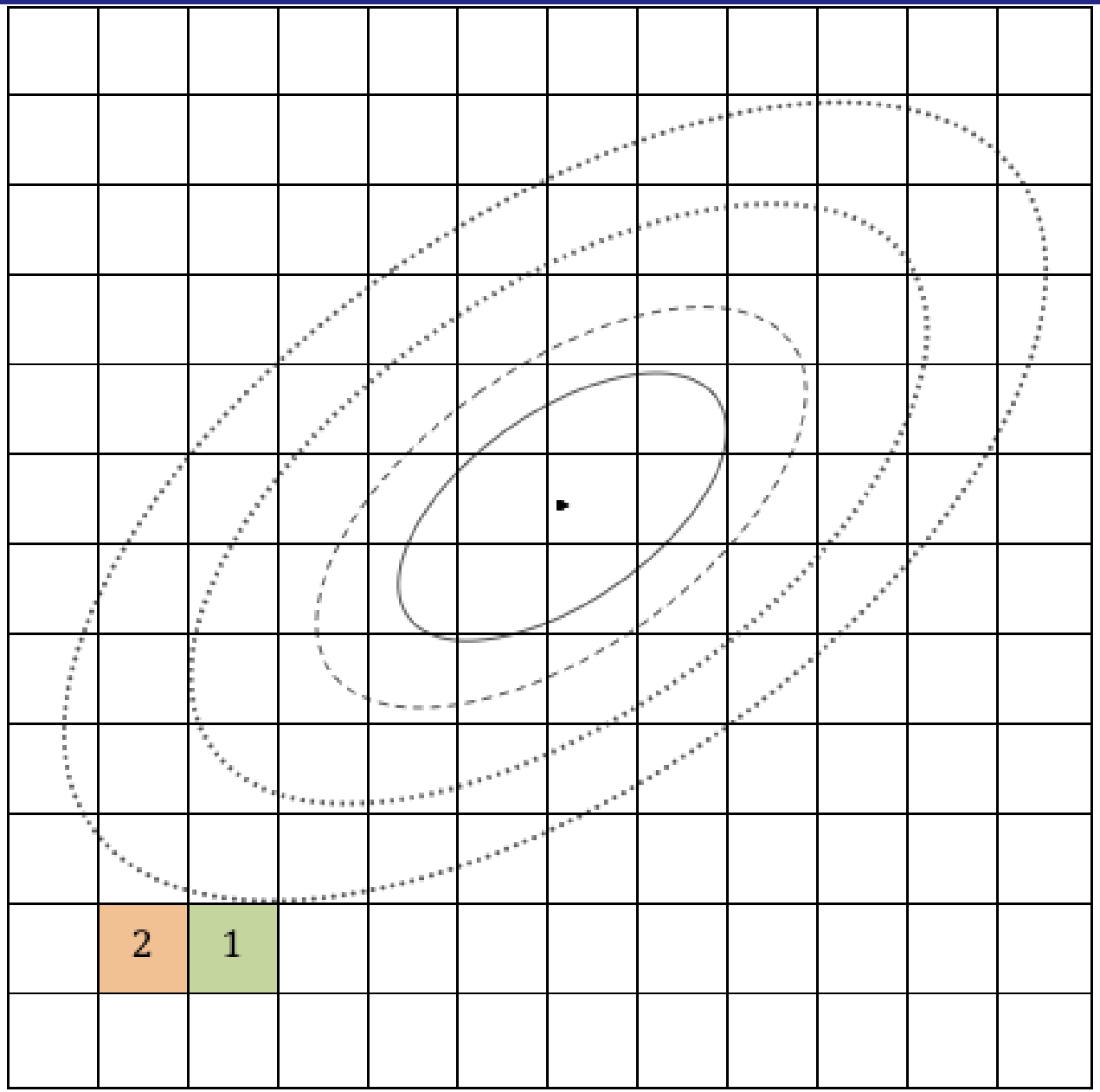

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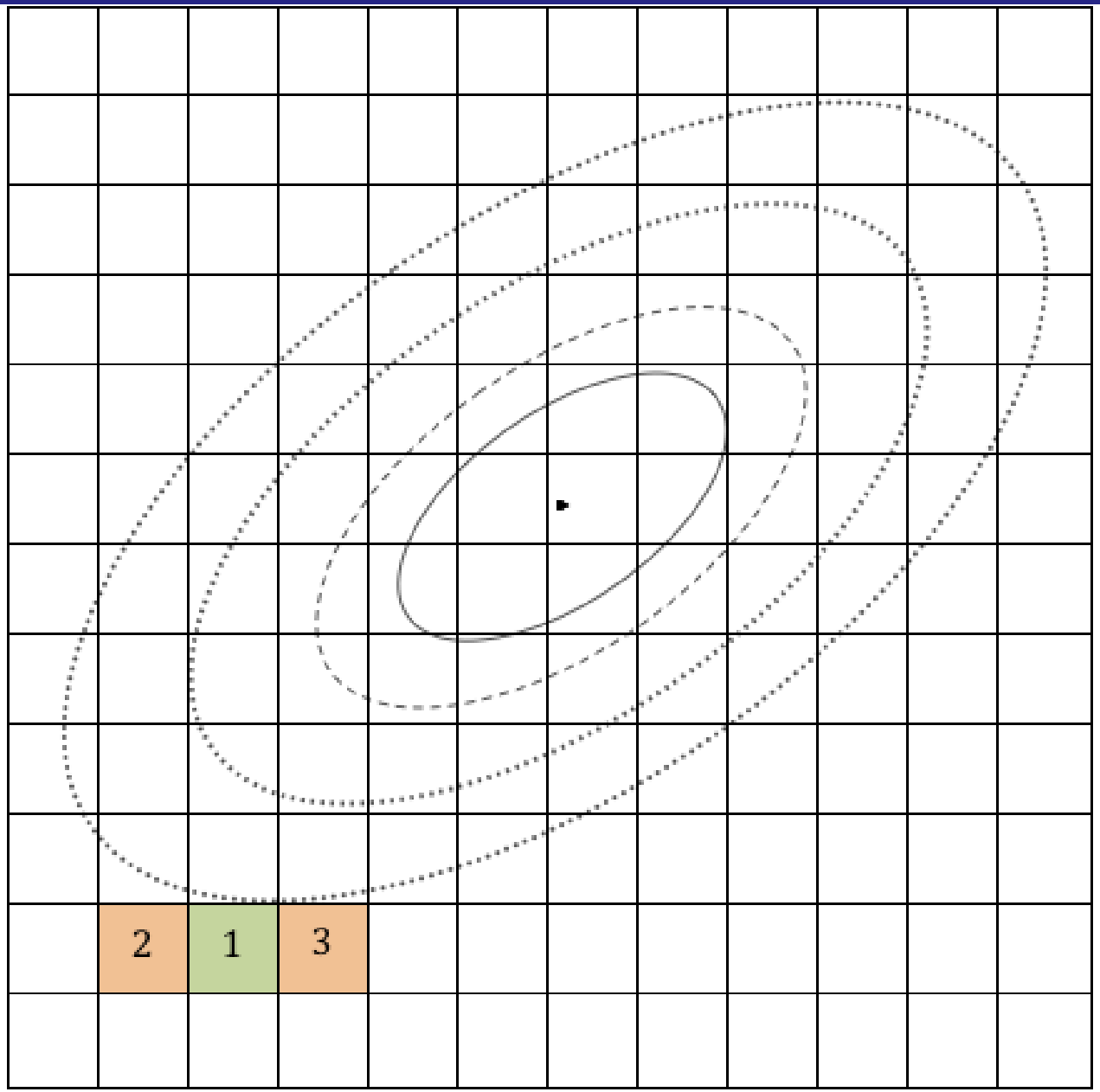

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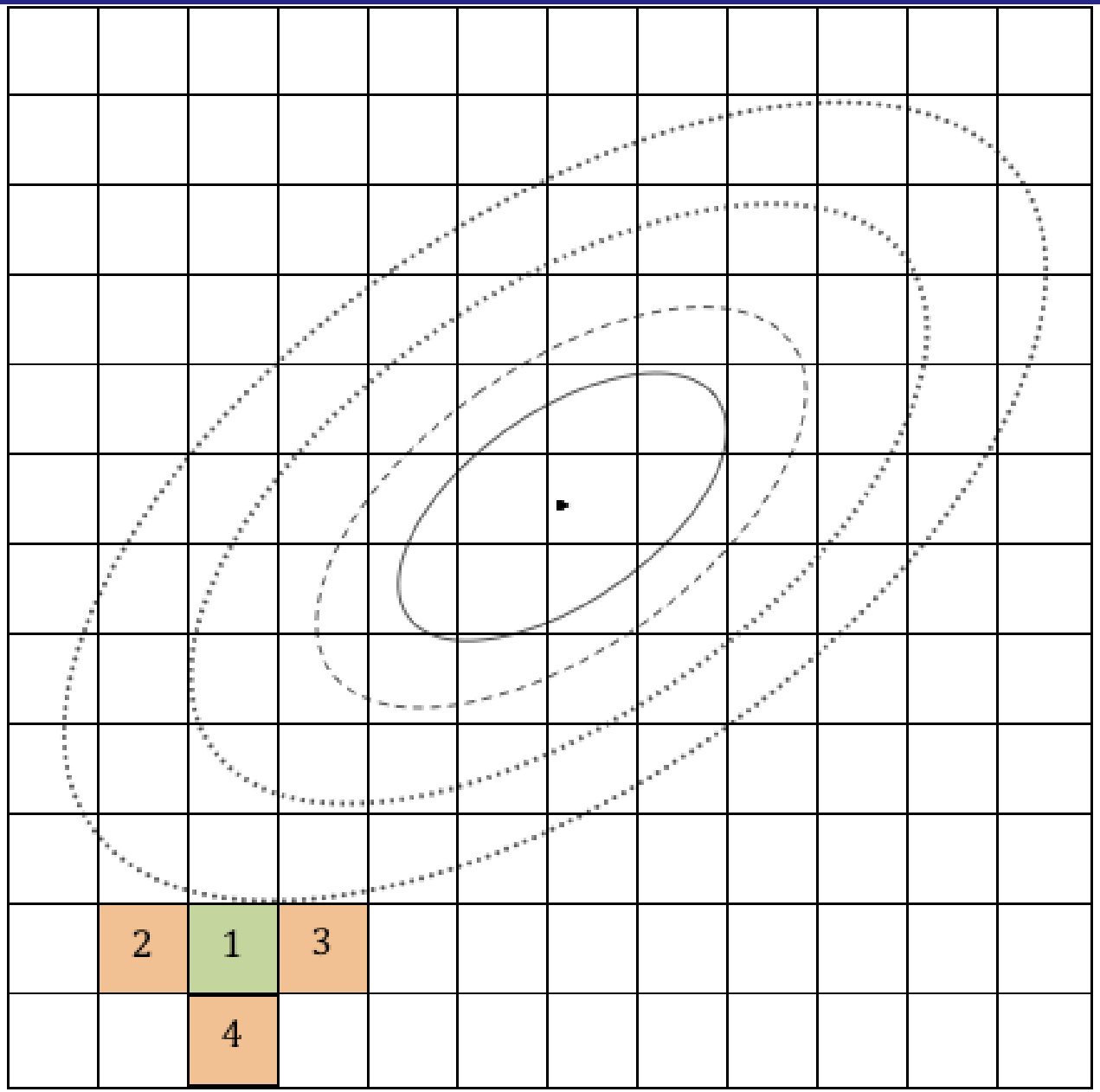

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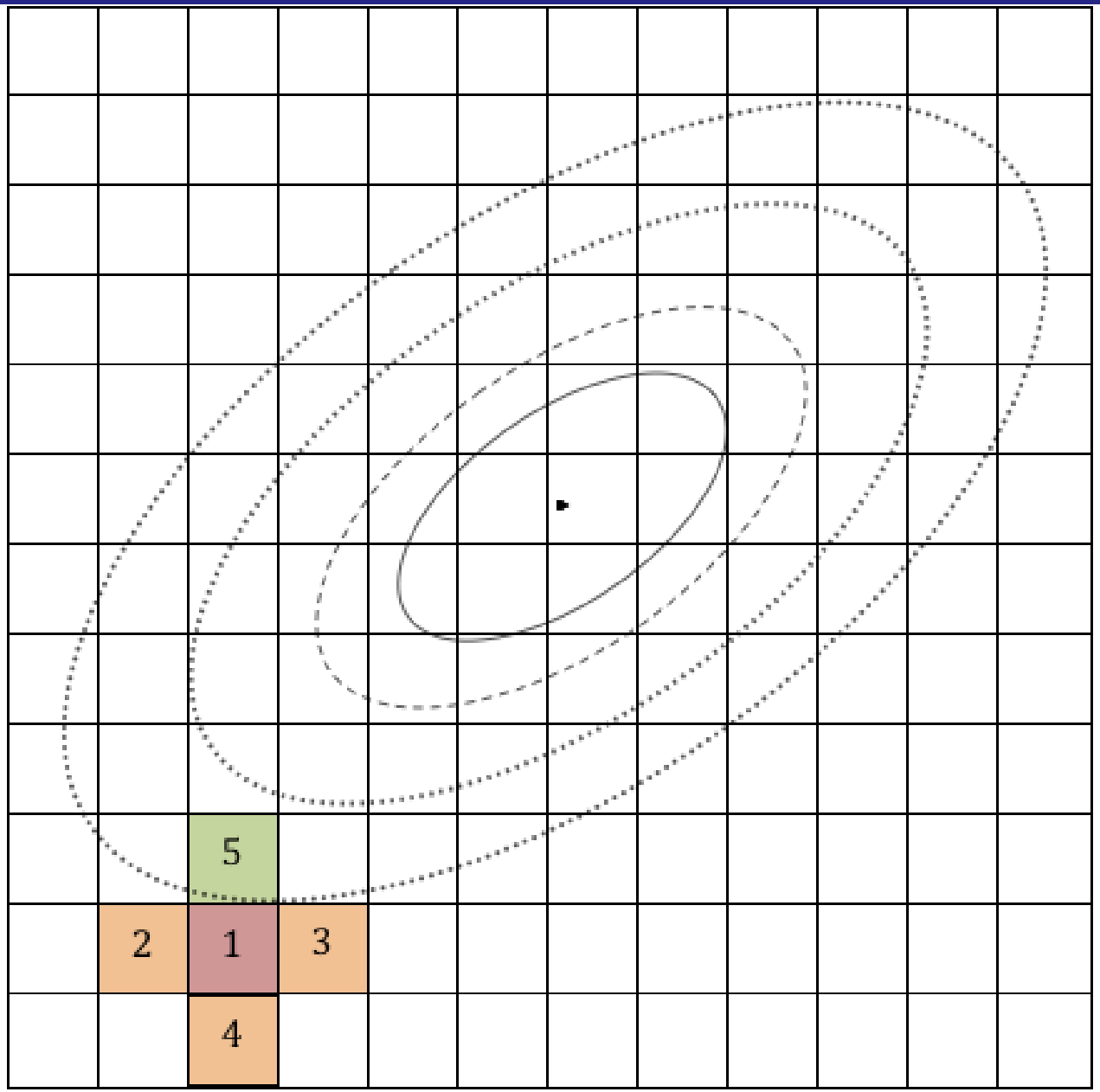

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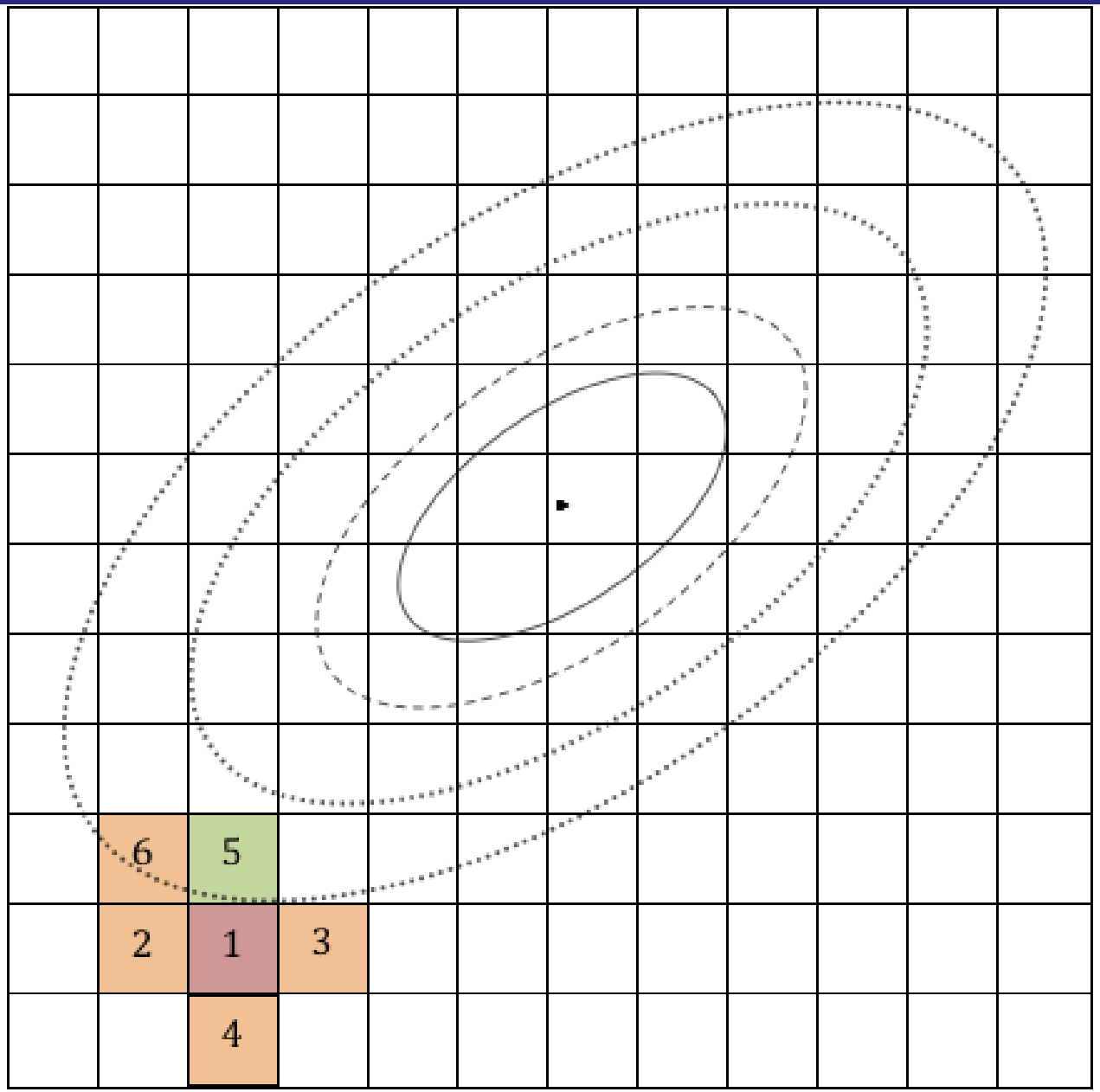

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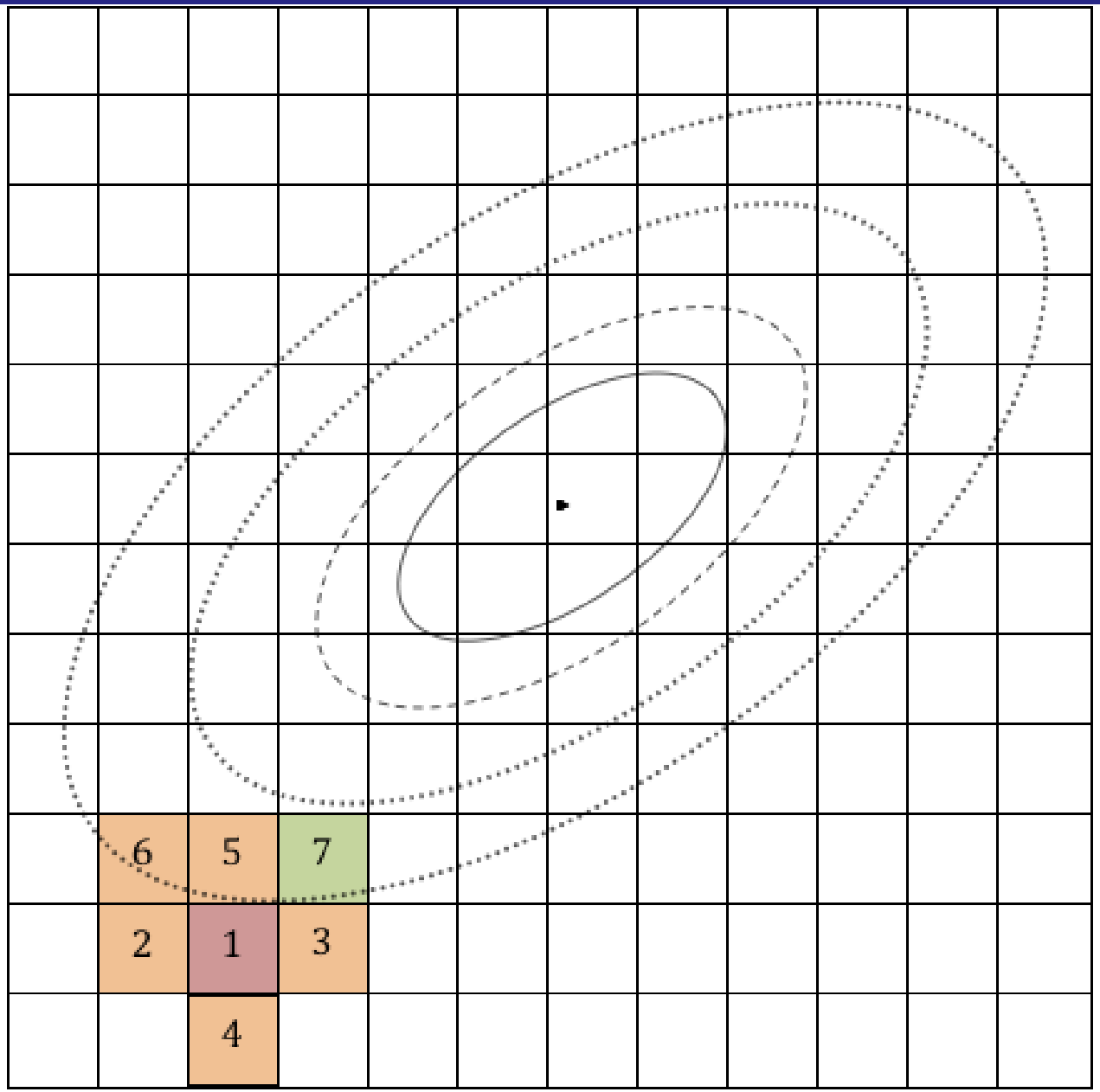

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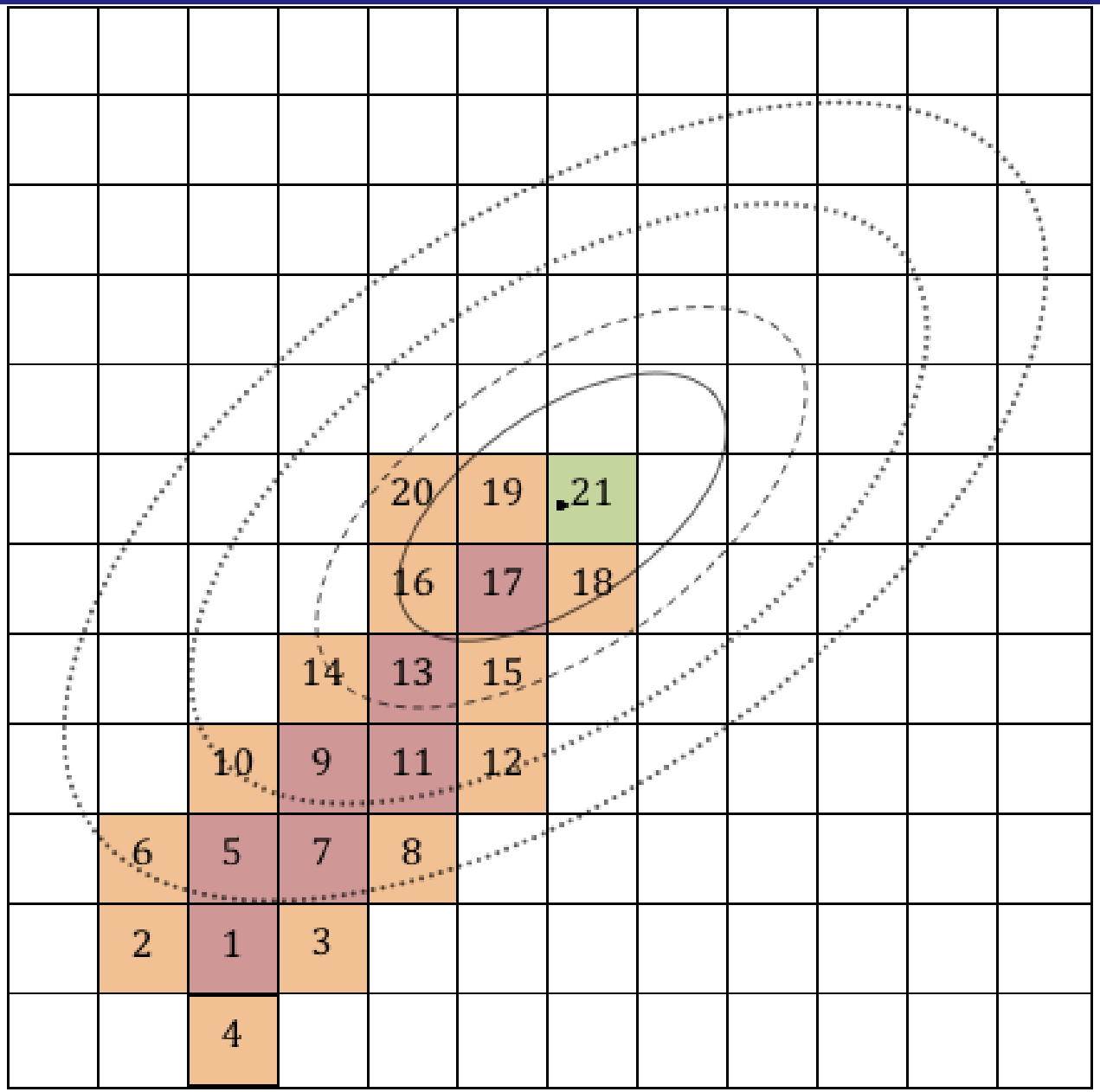

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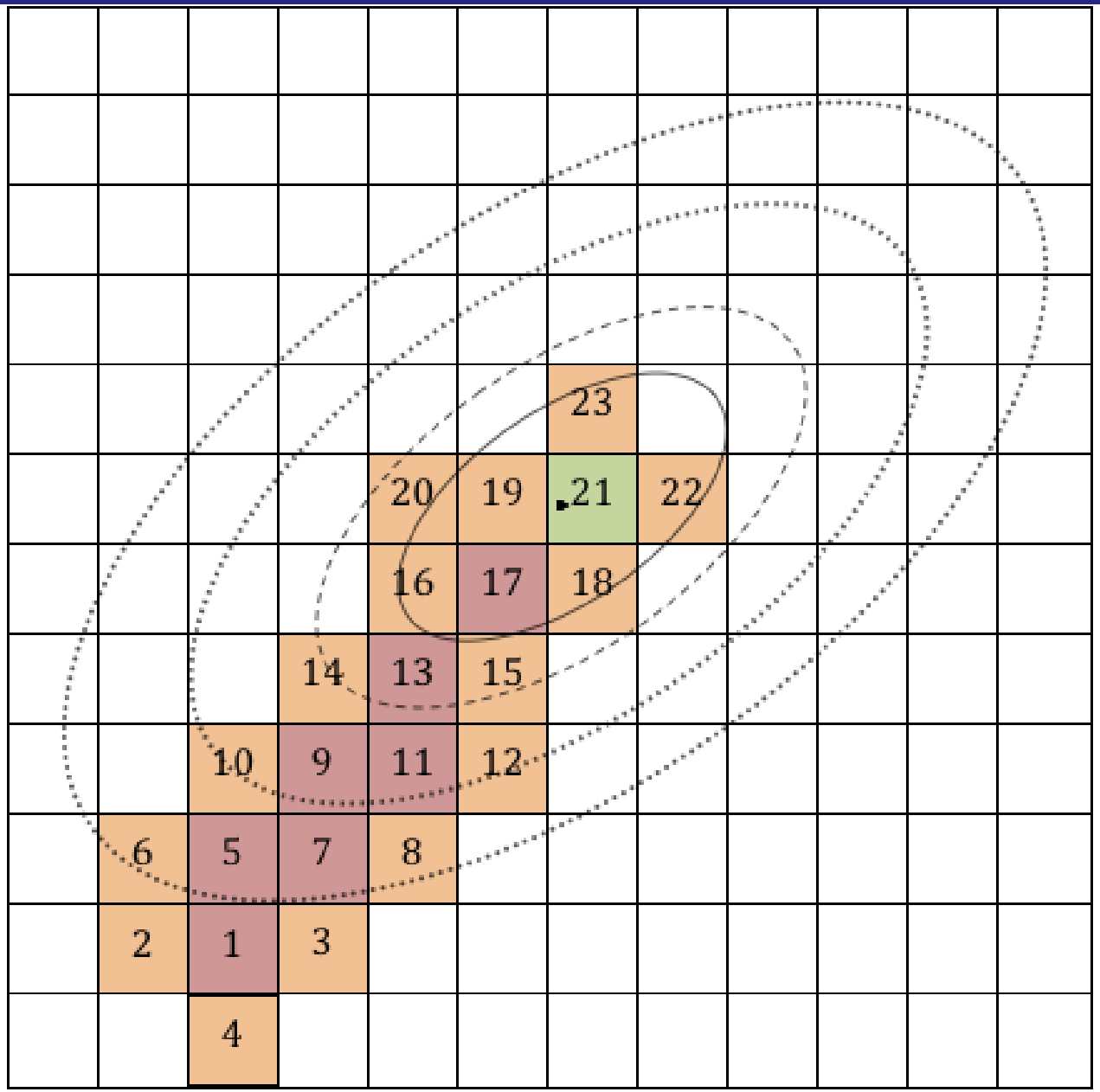

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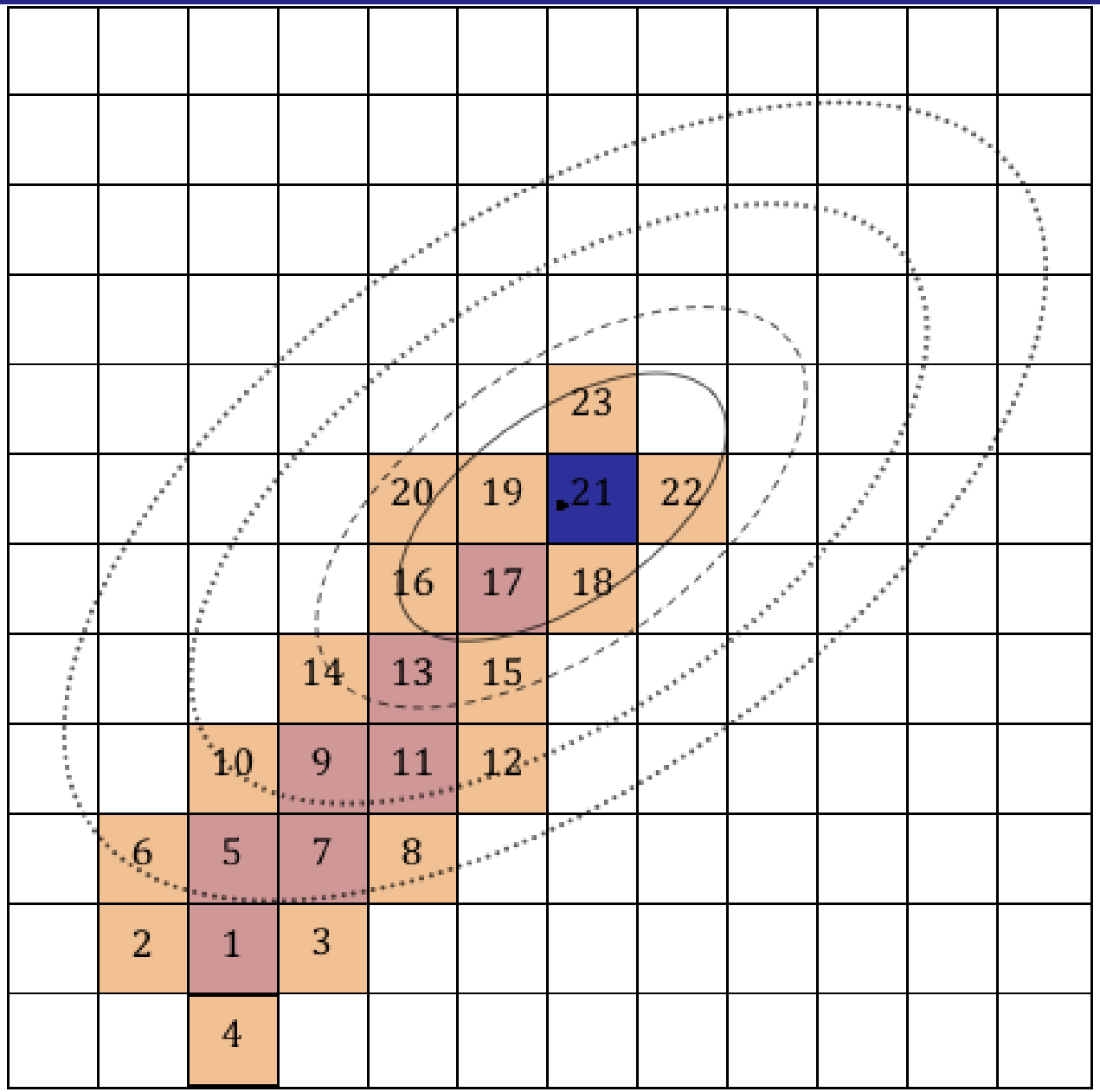

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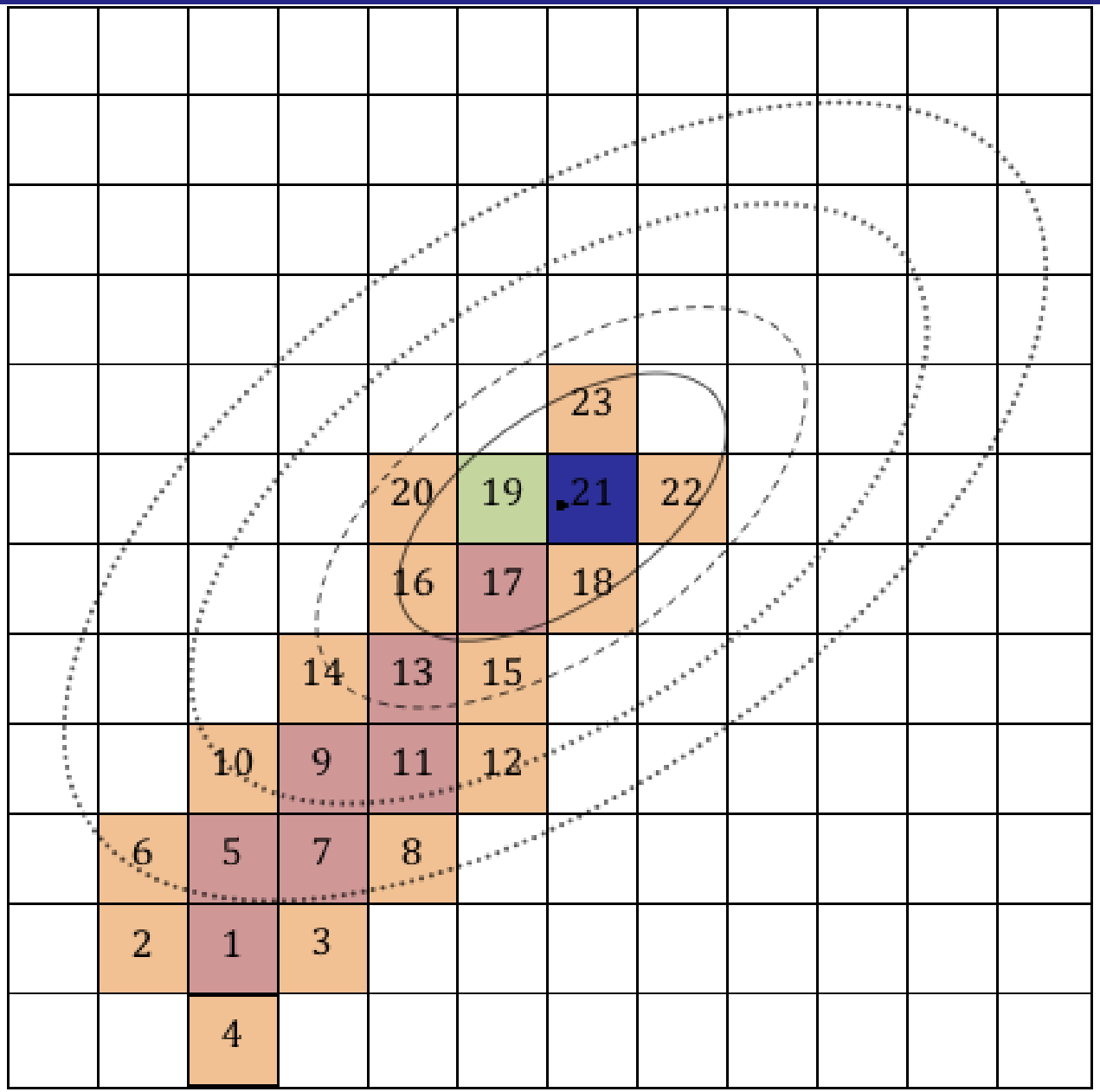

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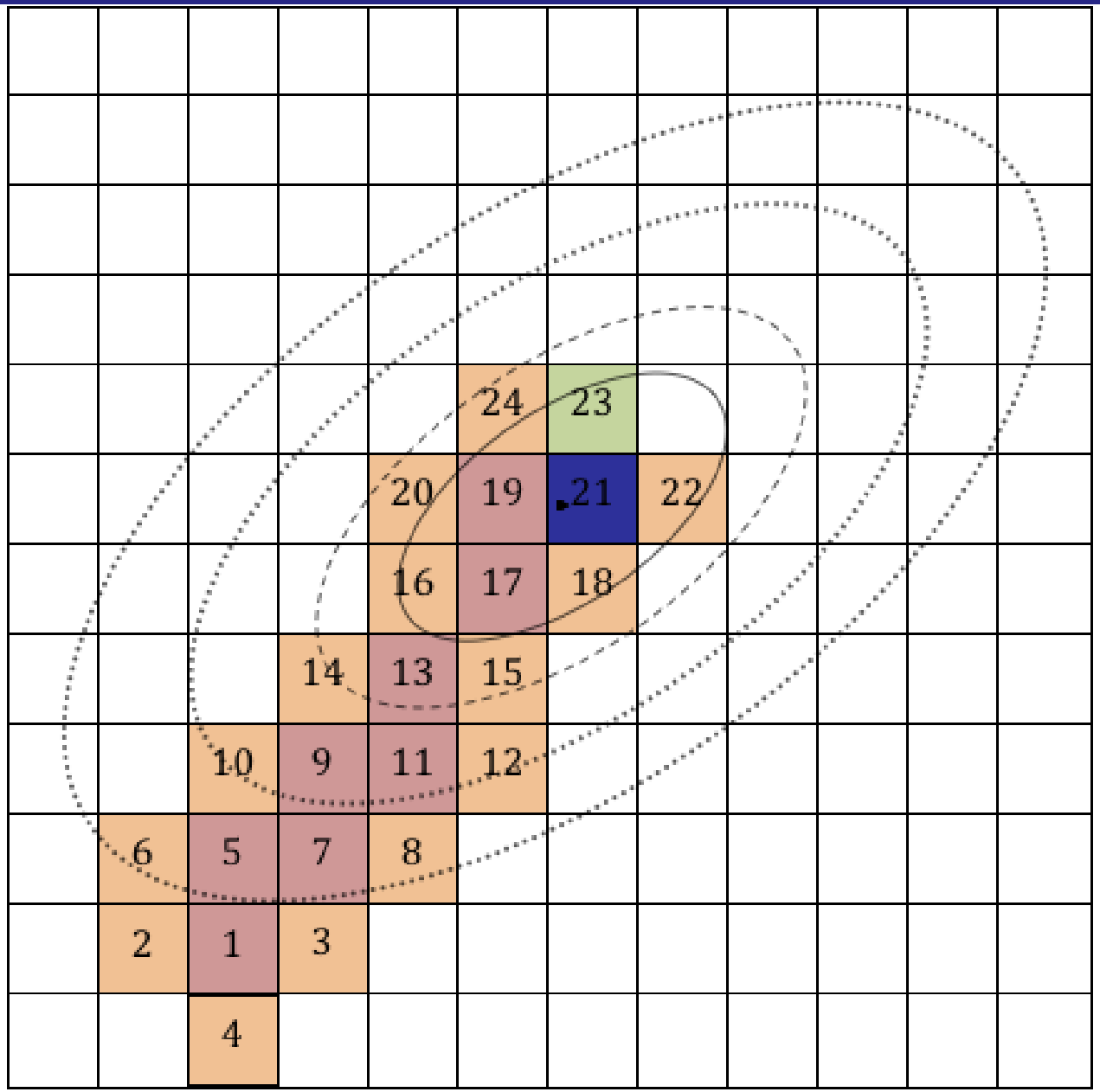

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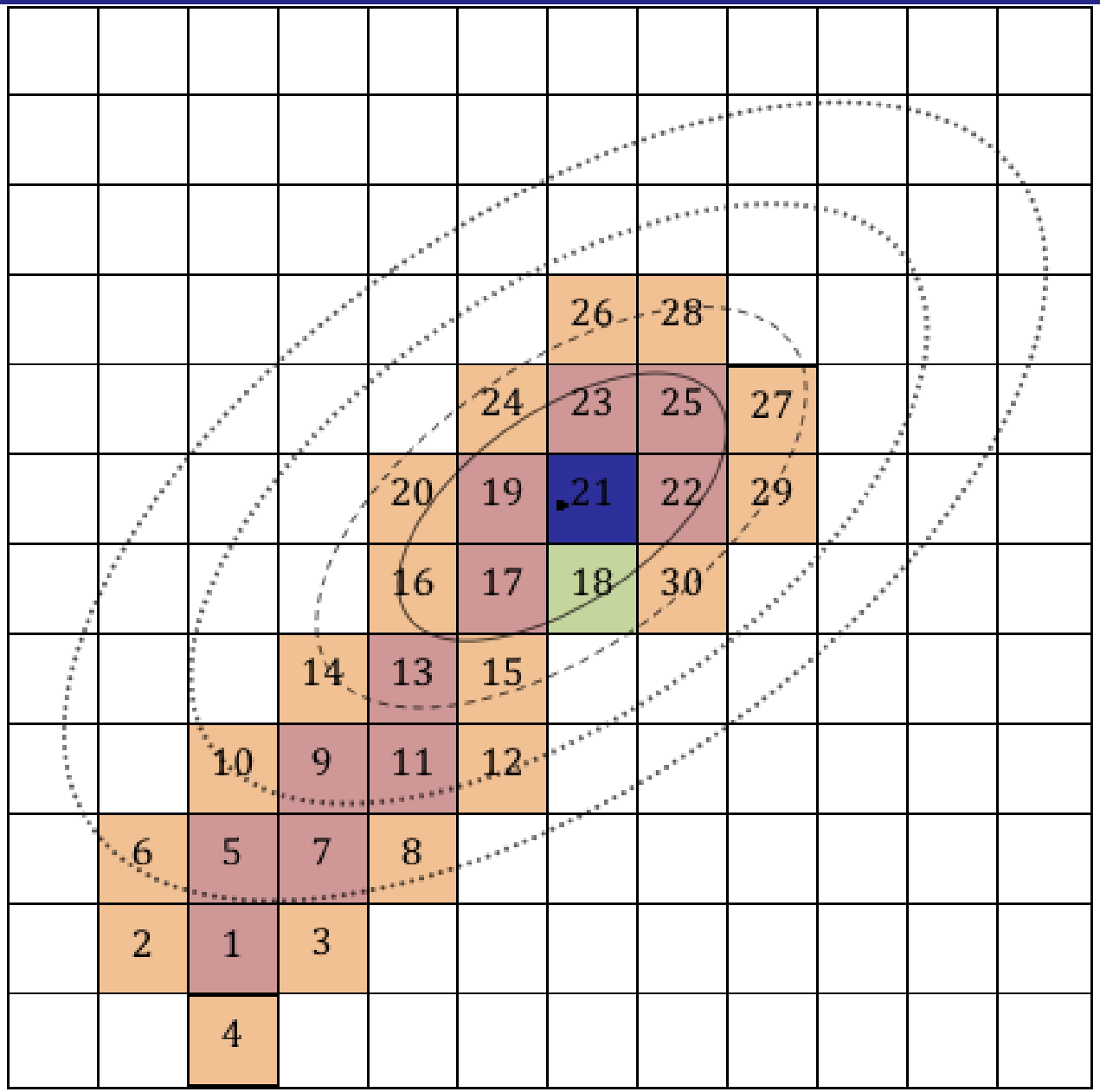

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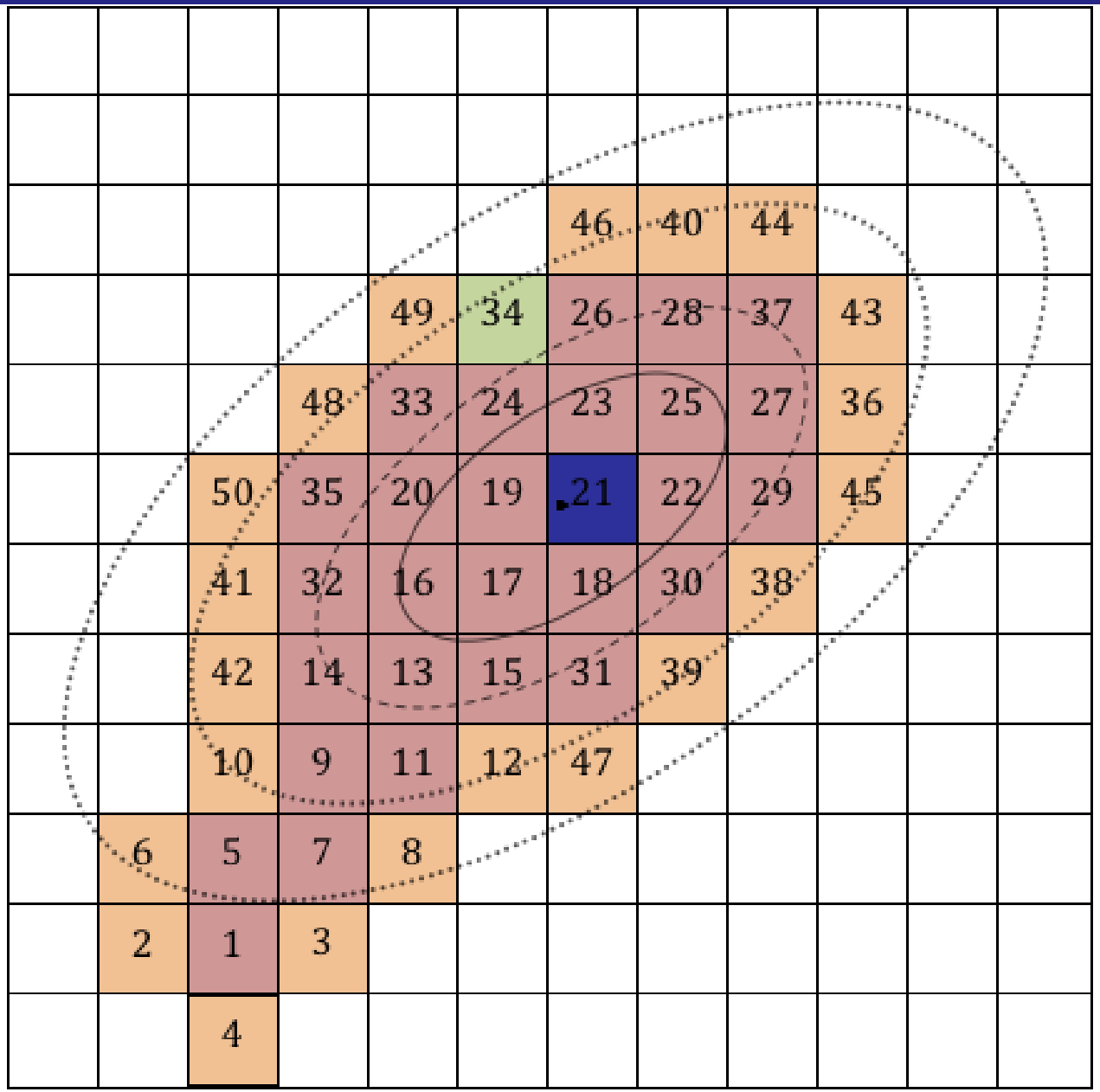

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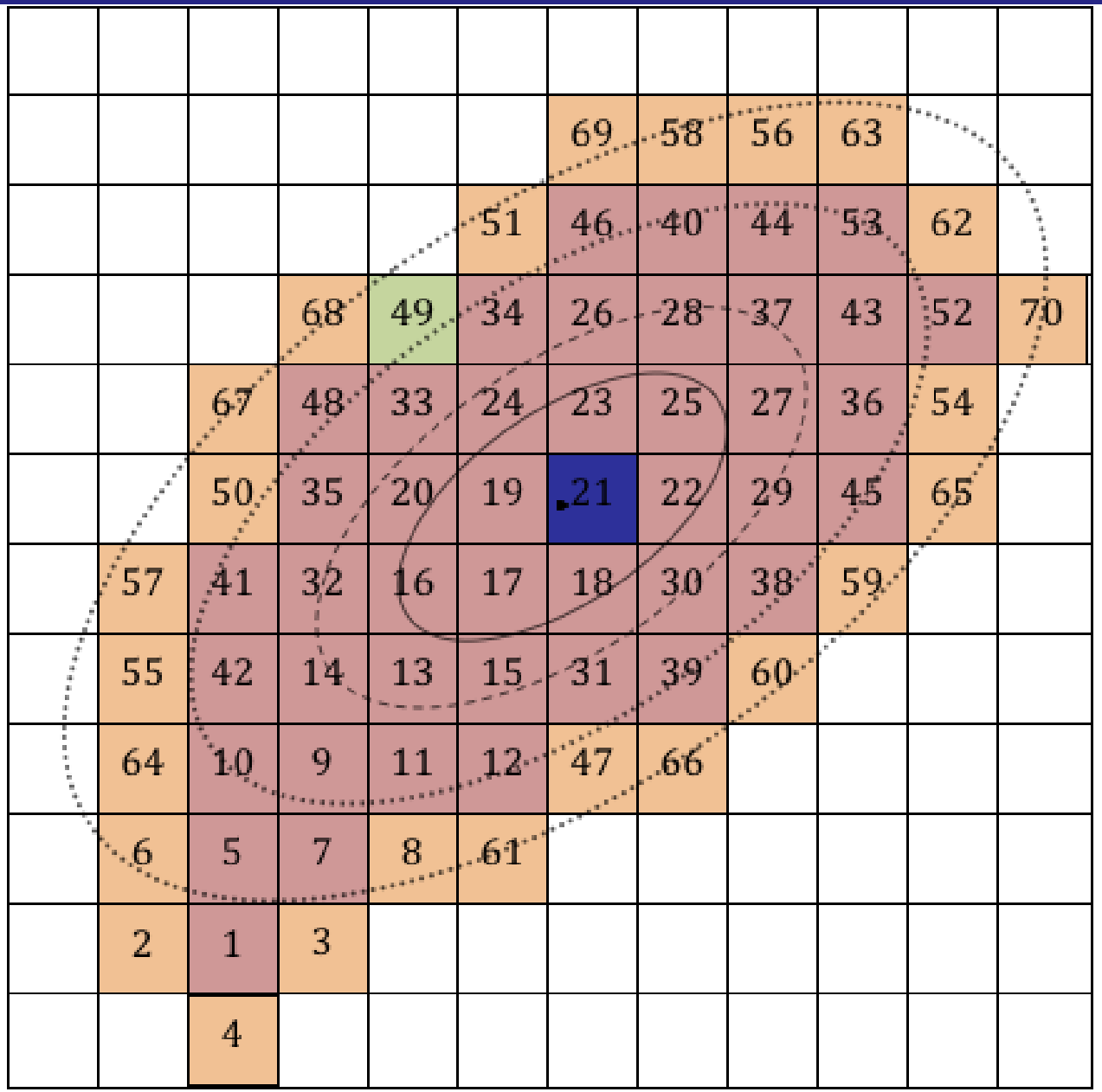

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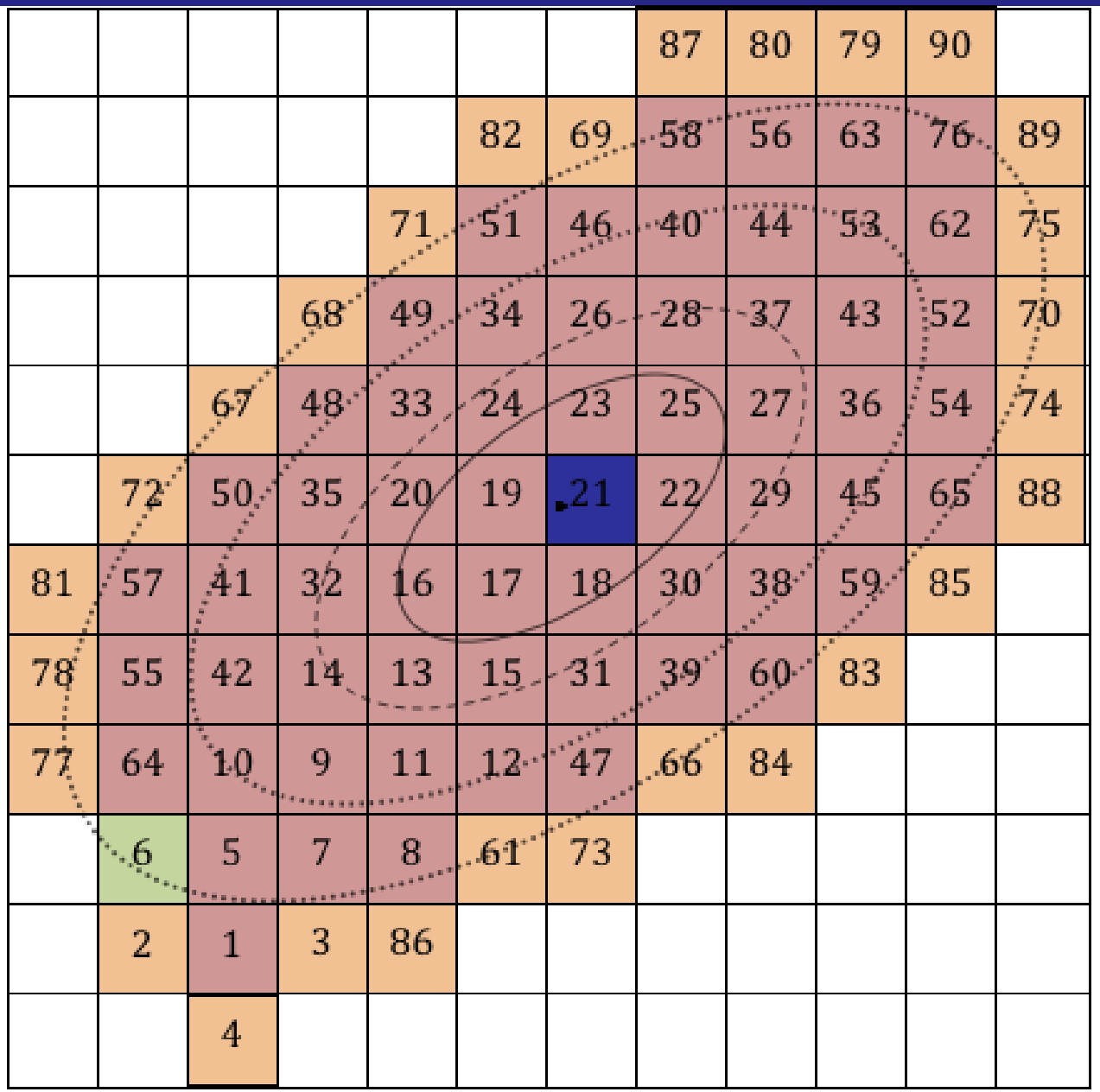

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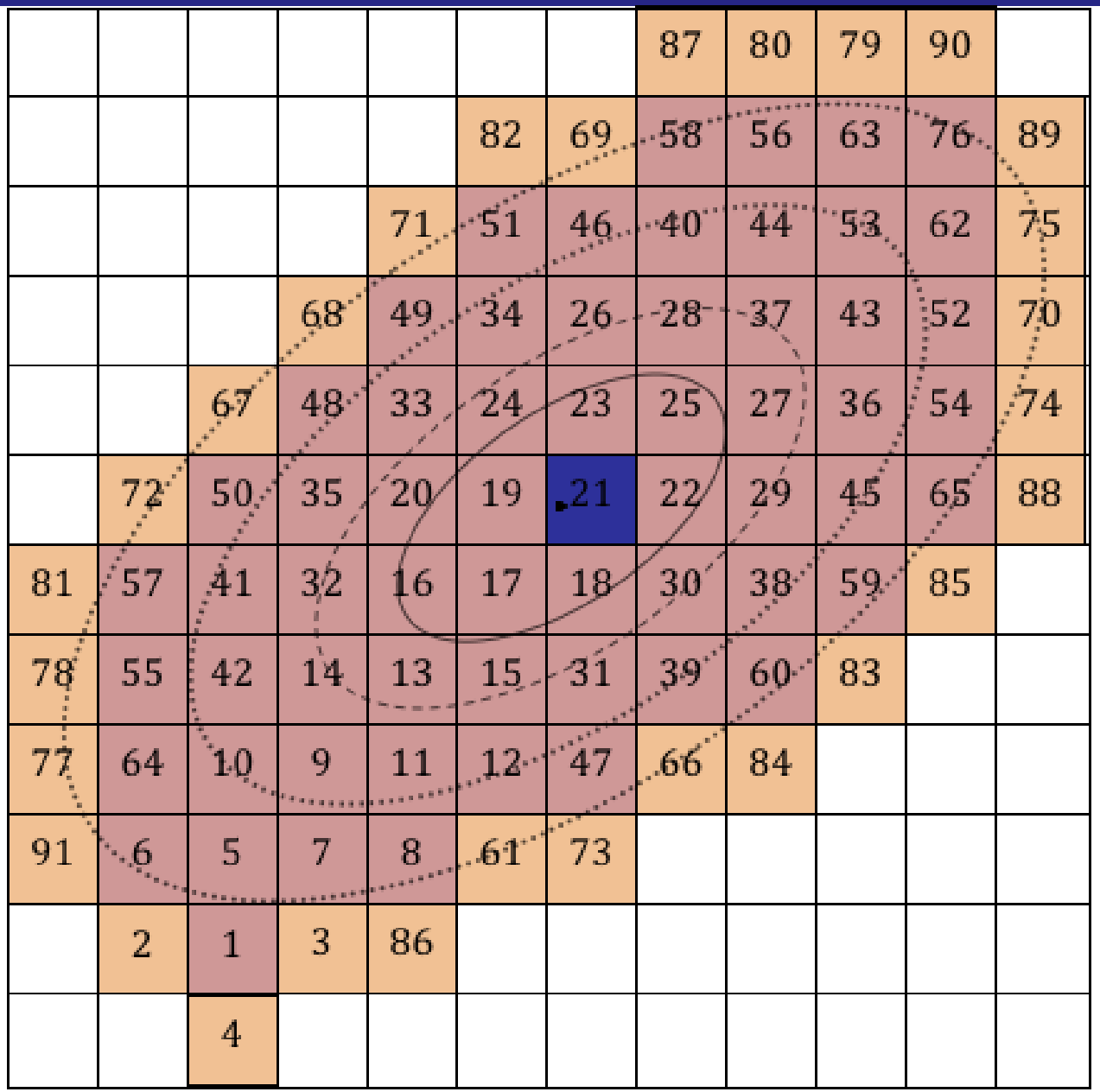

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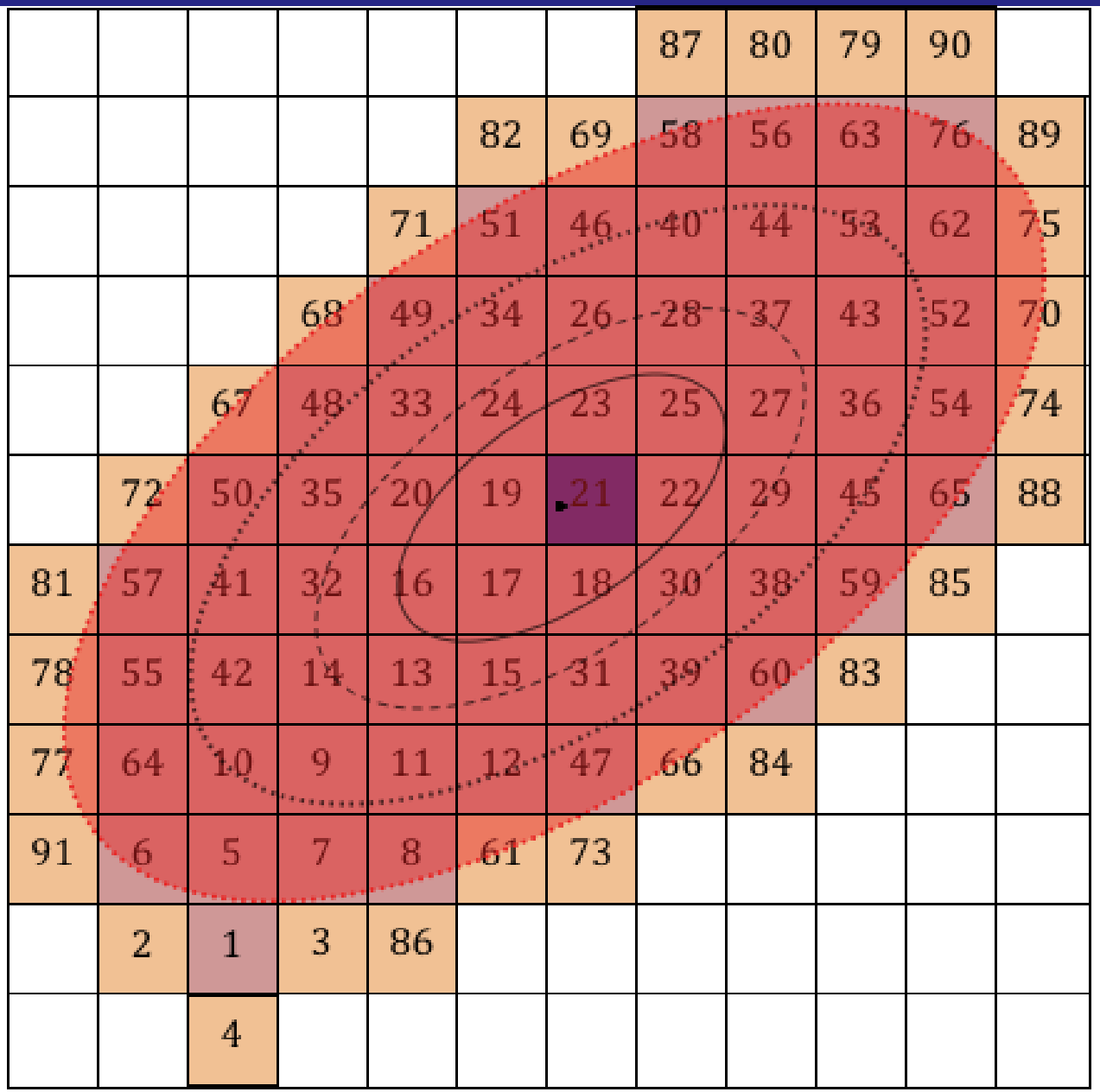
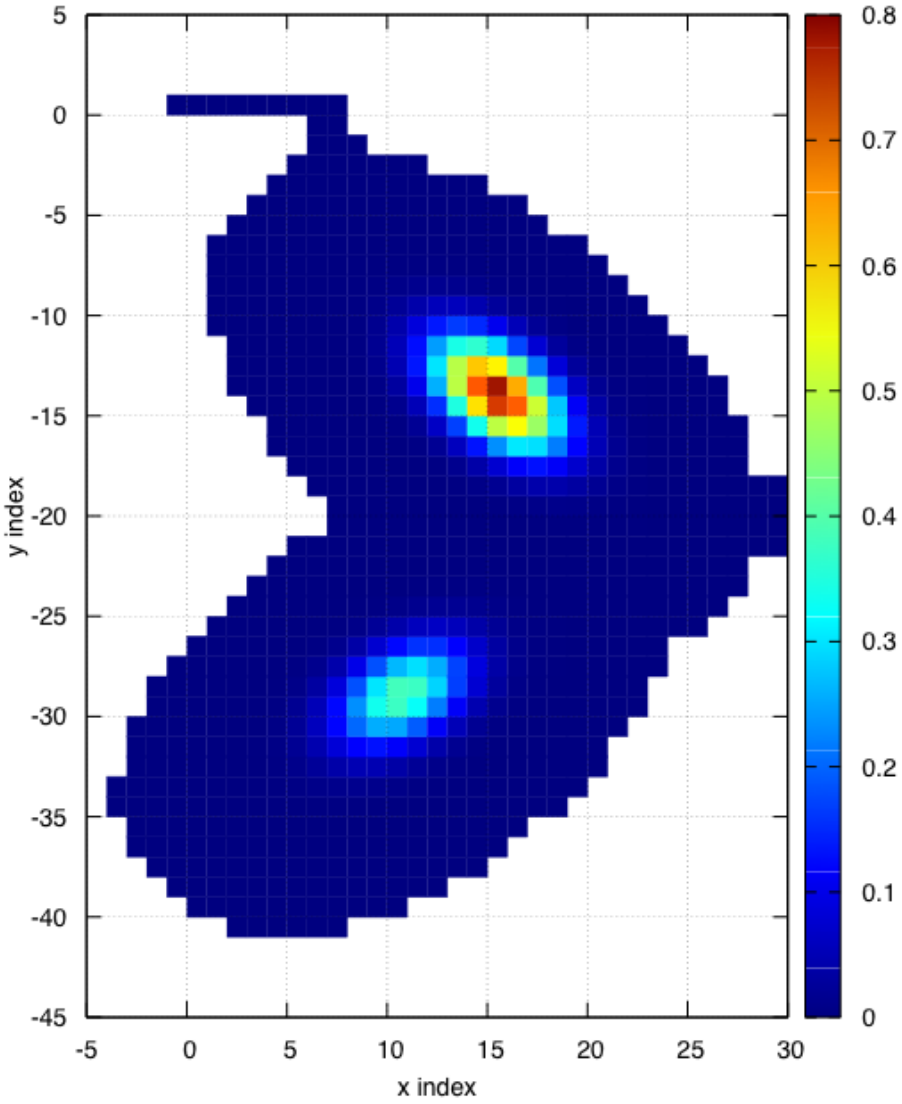
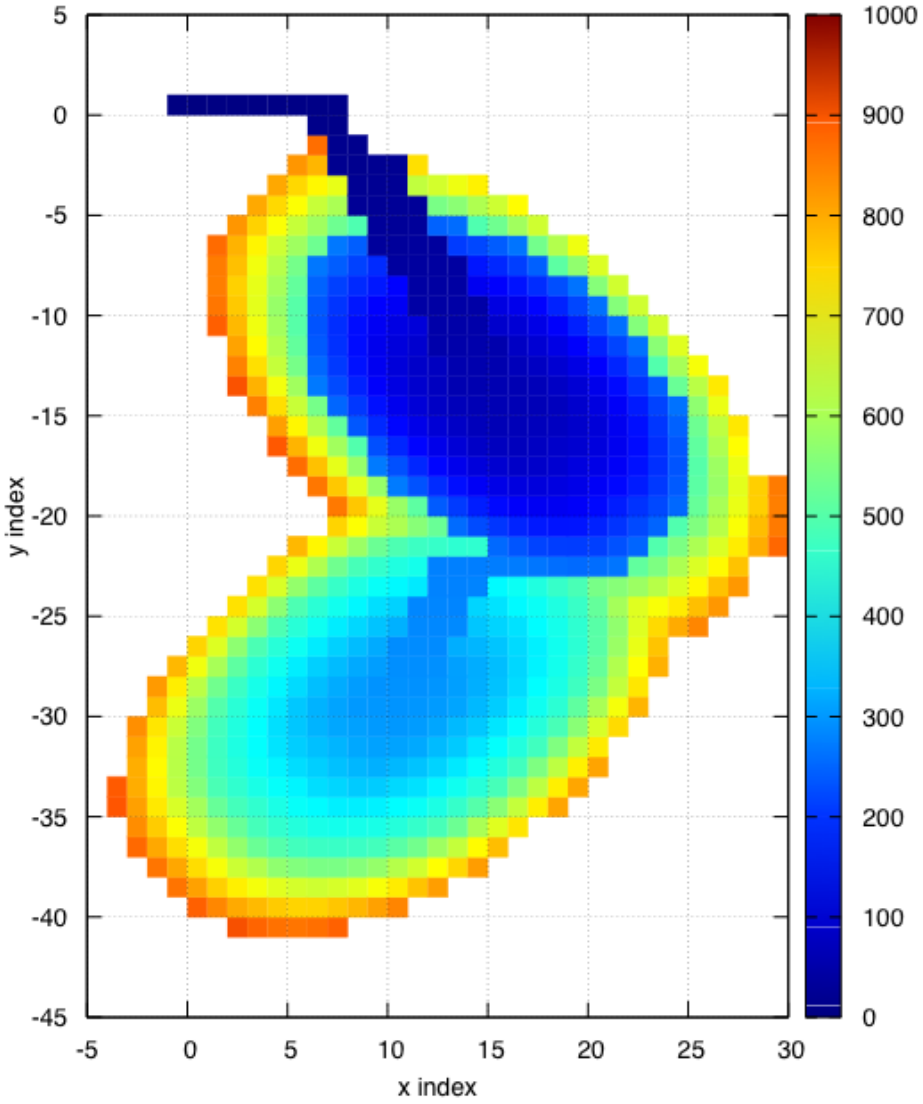


A more complicated 2D test distribution





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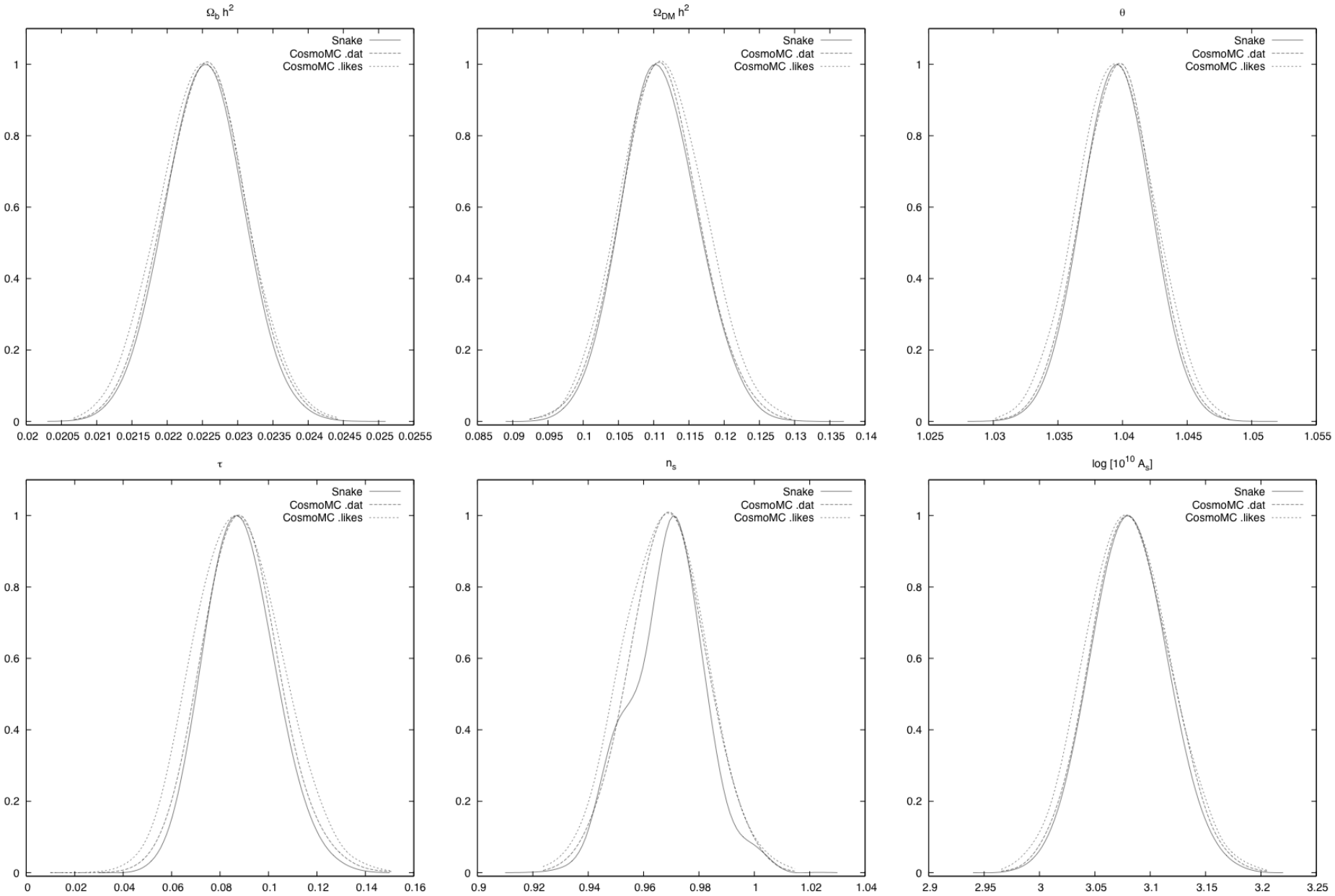
- $\log[10^{10}\mathrm{A_s}]$: $\mathrm{A_s}$ is the primordial superhorizon power in the curvature perturbation on 0.05Mpc^{-1} scales (i.e. an amplitude parameter)

Early plots


$\Omega_b h^2$
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θ
τ
n_s
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Snake
CosmoMC .dat
CosmoMC .likes

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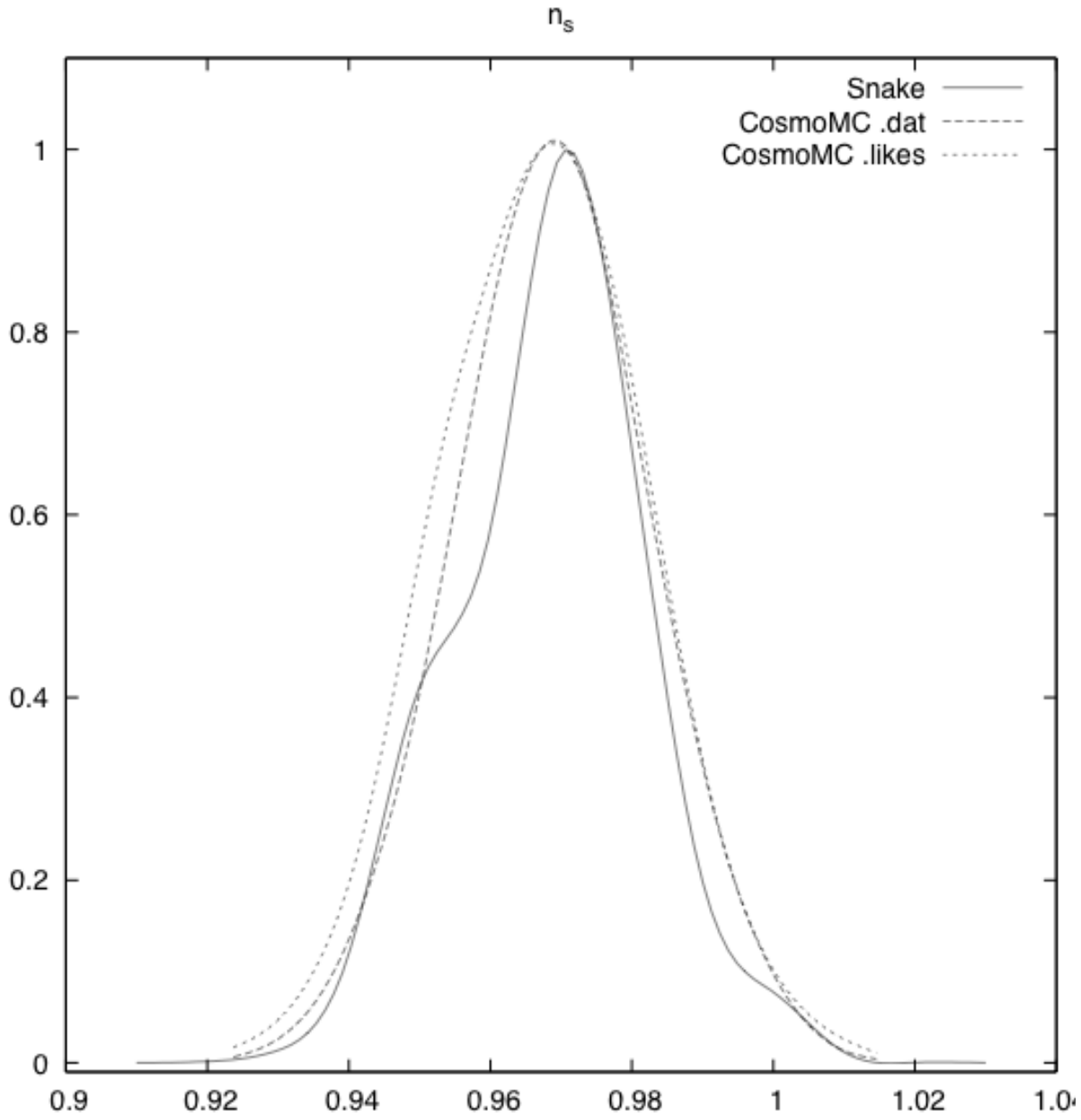
n_s
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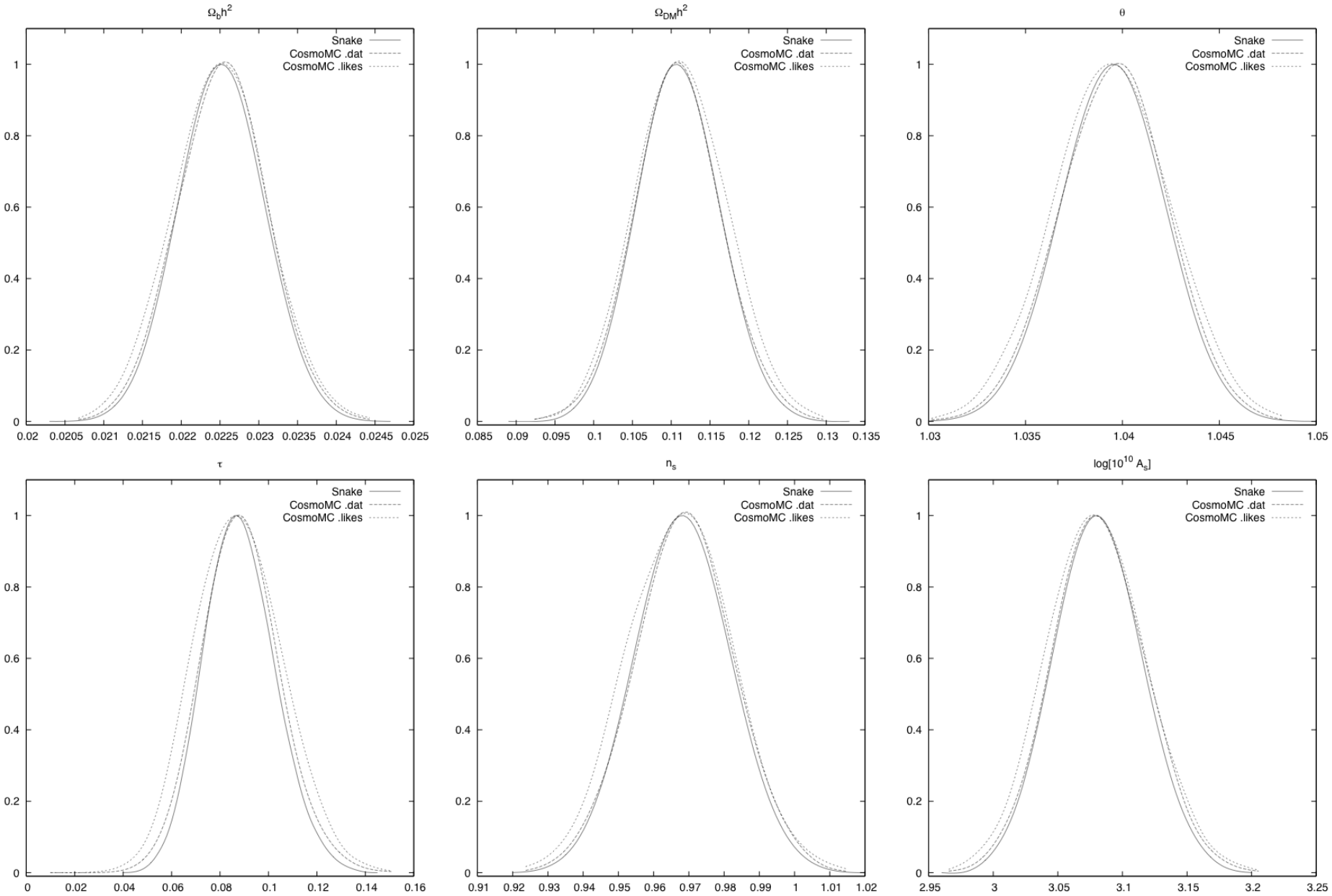
1
0.8
0.6
0.4
0.2
0
0.9
0.92
0.94
0.96
0.98
1
1.02

Later plots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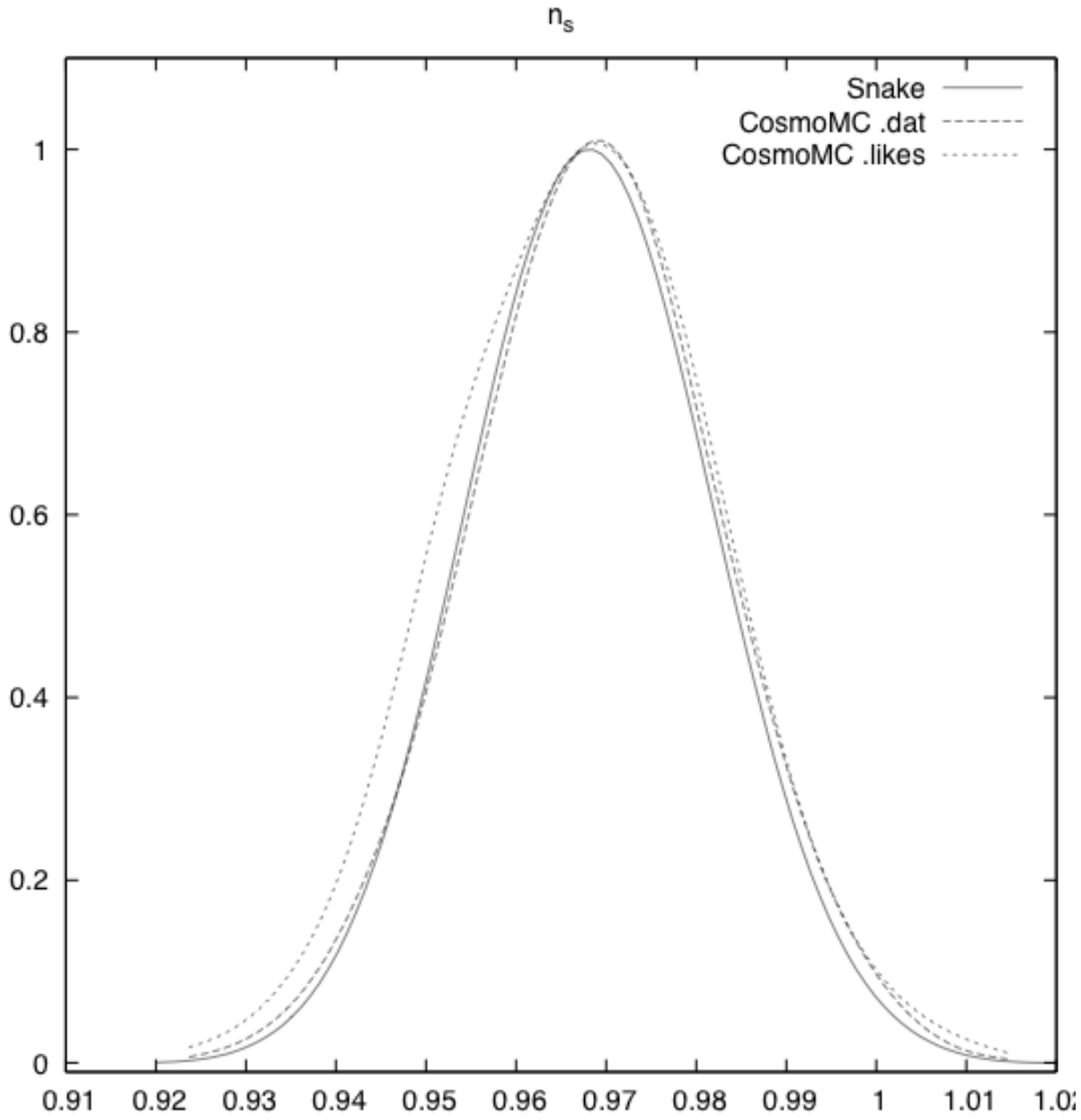
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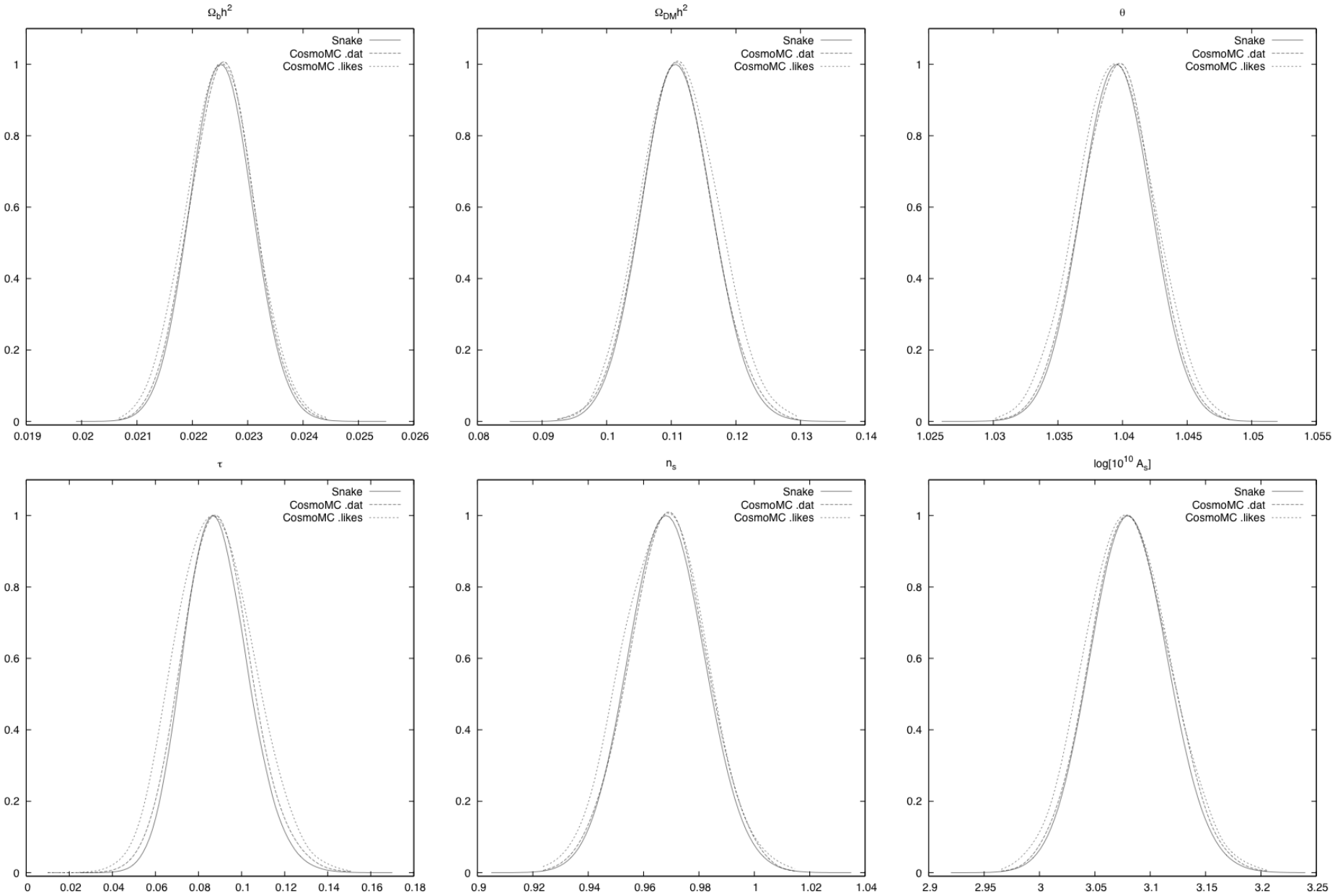
1.01

Current state



Future work

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