DARK ENERGY SPECTROSCOPIC INSTRUMENT

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Ω_m

Ω_{m} $\Omega_{\mathrm{b}}h^2$

Ω_m

$\Omega_{\mathrm{b}}h^2$

- BAO constraints $r_{\mathrm{d}}(\Omega_{\mathrm{m}} h^2, \Omega_{\mathrm{b}} h^2) \ h$

- Ω_{m} constraint by BAO at different z

- $\Omega_{\mathrm{b}} h^2$ can be constraied by BBN: Schöneberg et al., 2024

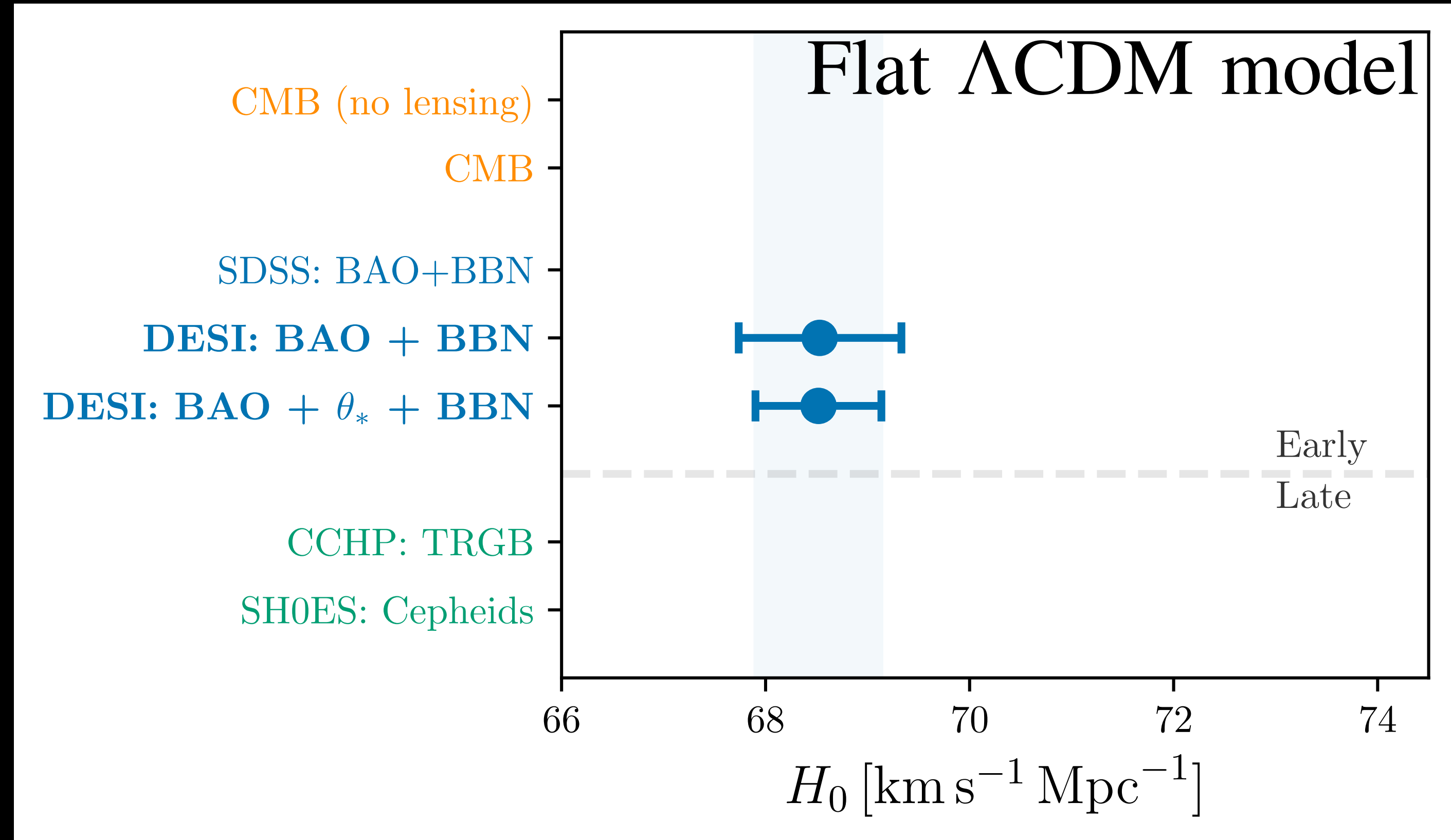$$\implies \text{constrains on } h \ \mathrm{i.e.} \ H_0$$

Hubble constant

$$H_0 = (68.53 \pm 0.80) \text{ kms}^{-1} \text{ Mpc}^{-1}$$
DESI + BBN

$$H_0 = (68.52 \pm 0.62) \text{ kms}^{-1} \text{ Mpc}^{-1}$$
DESI + θ_* + BBN

Flat ΛCDM model

CMB (no lensing)

CMB

SDSS: BAO+BBN

DESI: BAO + BBN

DESI: BAO + θ_* + BBN

Early
Late

CCHP: TRGB

SH0ES: Cepheids

$H_0 \, [\text{km s}^{-1} \text{ Mpc}^{-1}]$

$\theta_* \; \rightarrow \;$ CMB angular acoustic scale