Exercicios Aula 10

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June 15, 2020

Exercício 1

Para Eistein o Prior era:

$$P(\alpha_E) = \frac{4GM}{c^2 R} \tag{1}$$

Para Newton o Prior era a metade de Einstein:

$$P(\alpha_N) = \frac{2GM}{c^2 R} \tag{2}$$

1.2

$$P(\alpha|\mu,\sigma) = \frac{1}{\sqrt{2*\pi}\sigma} \exp \frac{-(\alpha-\mu)^2}{2\sigma^2} \tag{3}$$

Fator de Bayes:

$$B_{EN} = \frac{\frac{1}{\sqrt{2*\pi}\sigma} \exp \frac{-(\alpha_E-\mu)^2}{2\sigma^2}}{\frac{1}{\sqrt{2*\pi}\sigma} \exp \frac{-(\alpha_N-\mu)^2}{2\sigma^2}} \tag{4}$$

$$|ln(B_{EN})| = -\frac{(\alpha_E-\mu)^2}{2*\sigma^2} + \frac{(\alpha_N-\mu)^2}{2*\sigma^2} \tag{5}$$

Para as observações de Eddington, 1.61+- 0.4 arcsec $ln(B_{EN}) = 1.6584$
Para as observações de Crommelier, 1.98+- 0.16 arcsec $ln(B_{EN}) = 22.939$