

Introdução à Astronomia
Prof. Antônio Kanaan
Aula 5 – 23 abril 2007
Propriedades da Luz
Instrumentos Astronômicos

Telescópios e espectrógrafos

Boa tarde Prof. Kanaan!

Precisamos da relação dos alunos do Curso de Física que querem matrícula na disciplina FSC 5909.

Hoje, 23/04, o Colegiado decidiu pela retirada do pré-requisito para o nosso curso. Precisamos desta relação urgente, até as 19:30 horas a Nilva estará esperando a relação para incluir no sistema.

Tania

A principal função de um telescópio é coletar luz, não aumentar as coisas de tamanho !!!

O que importa em um telescópio é sua área coletora, por isso os telescópios são grandes.

$$A = \pi R^2 = \pi D^2 / 4$$

Papel secundário: aumento.

$$\text{Aumento} = f(\text{objetiva}) / f(\text{ocular})$$

Tipos de telescópios:

Refratores (até Newton) – sofrem de aberração cromática

Refletores (depois de, até 1900)

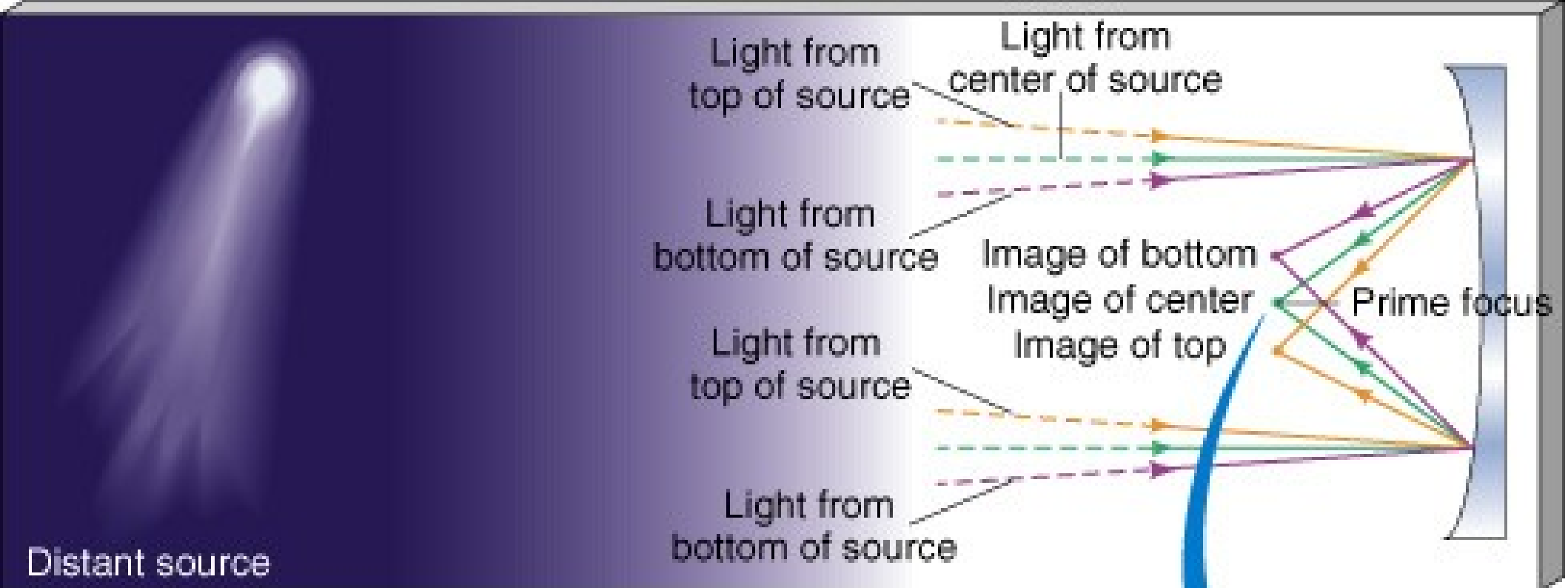
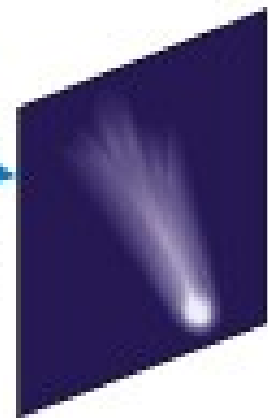
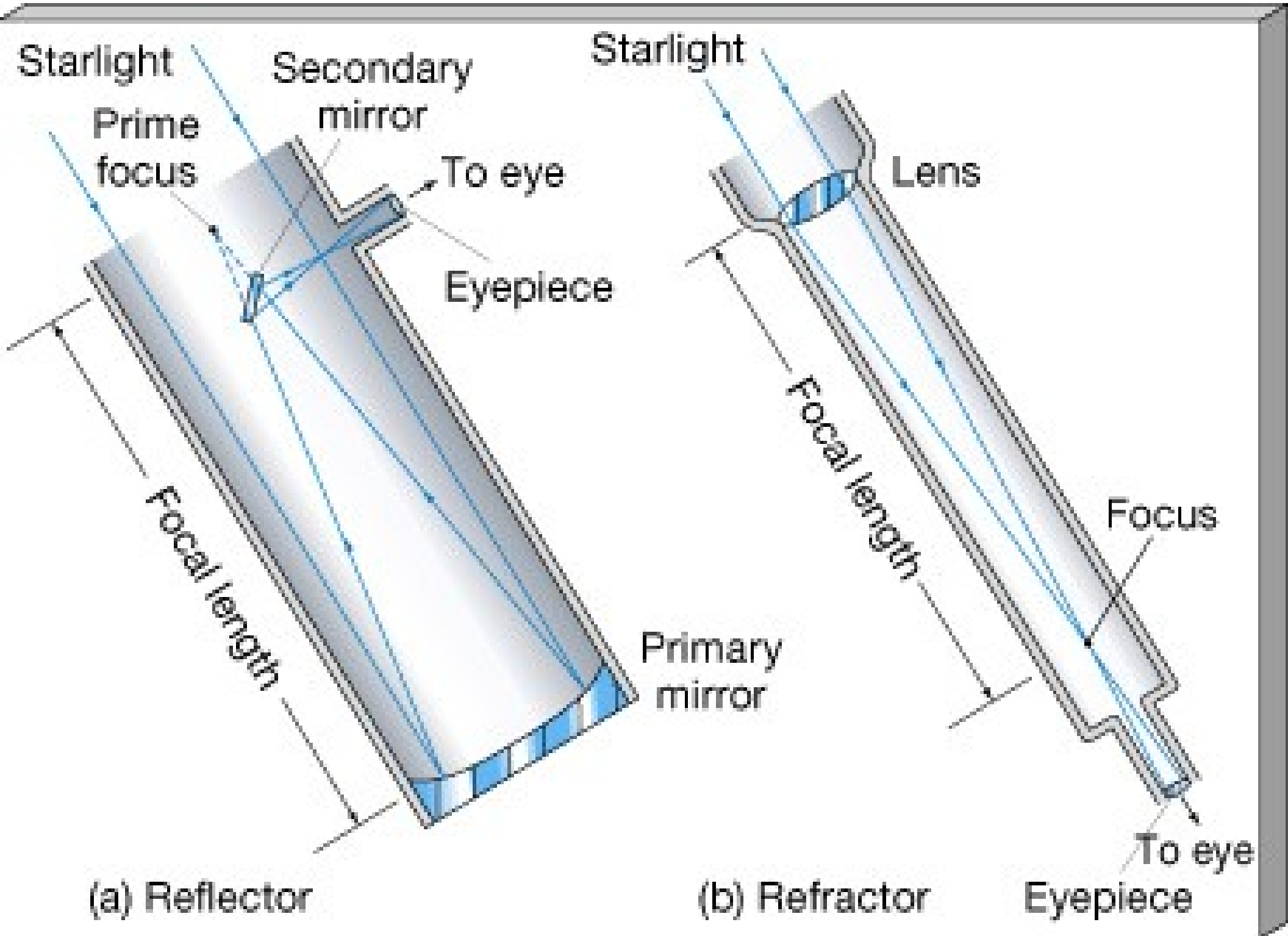
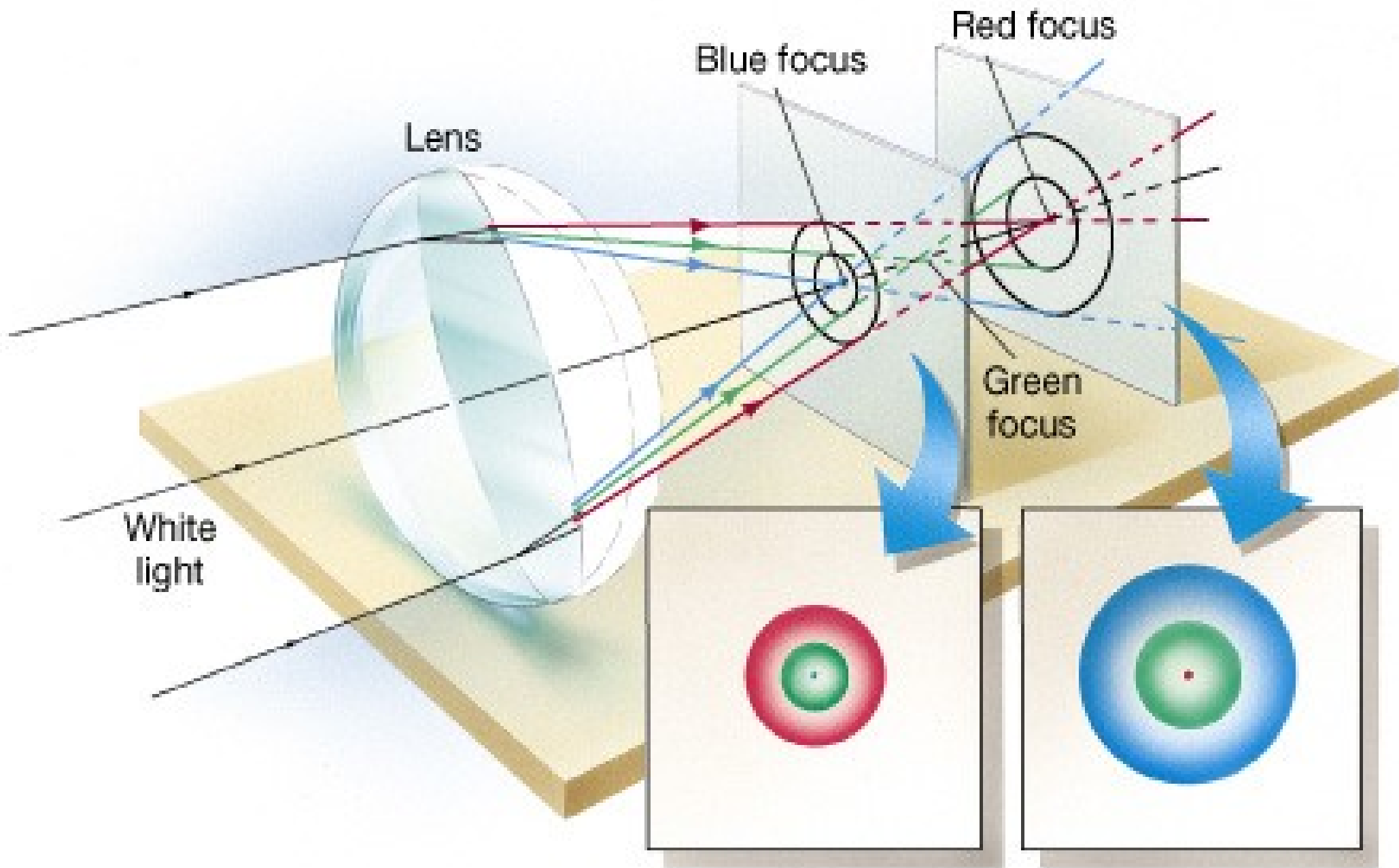


Image
formed







Aberração cromática – até a invenção dos refletores

Resolução: de 10', 1', 5", 1"



(a)



(b)



(c)



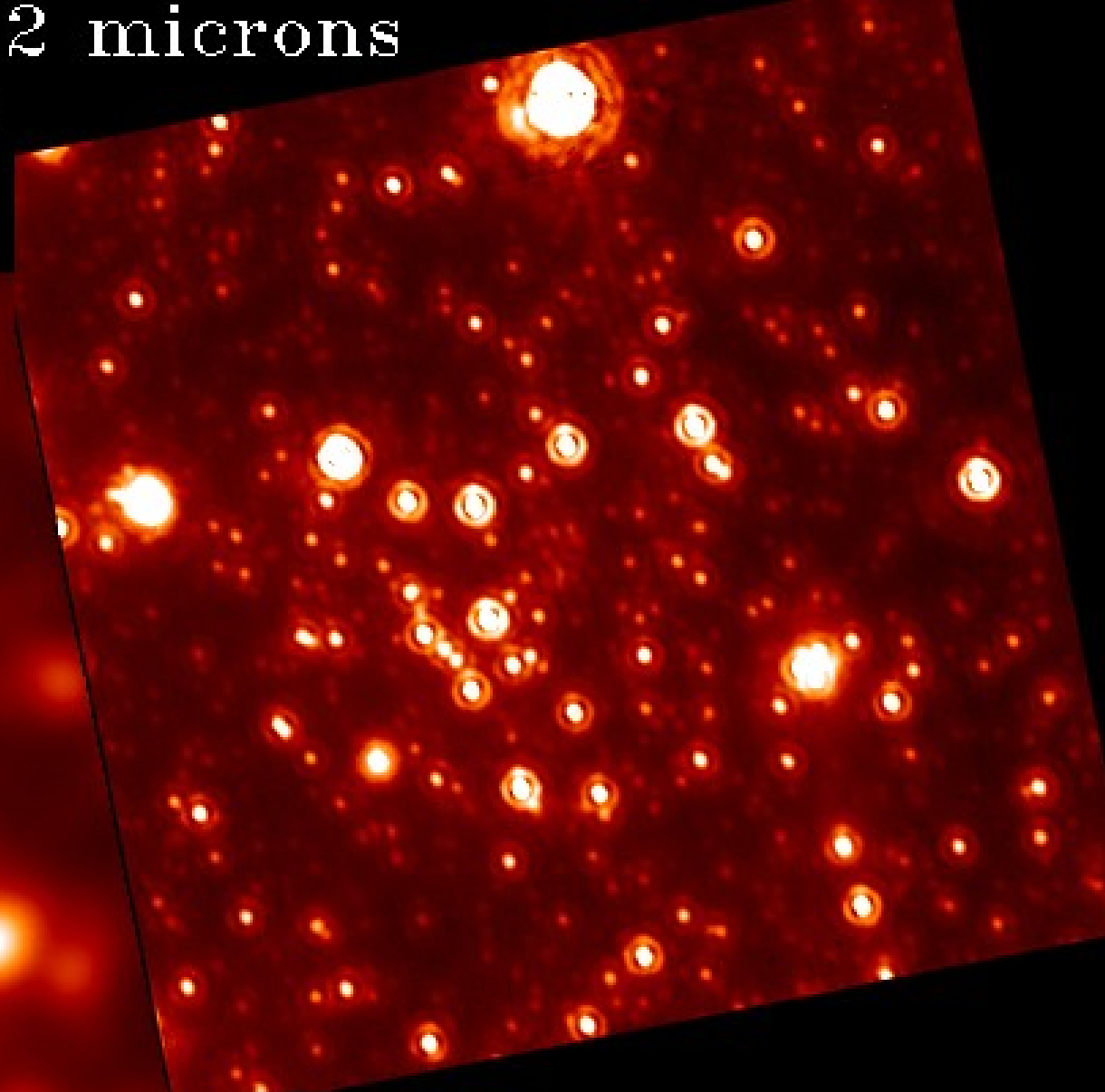
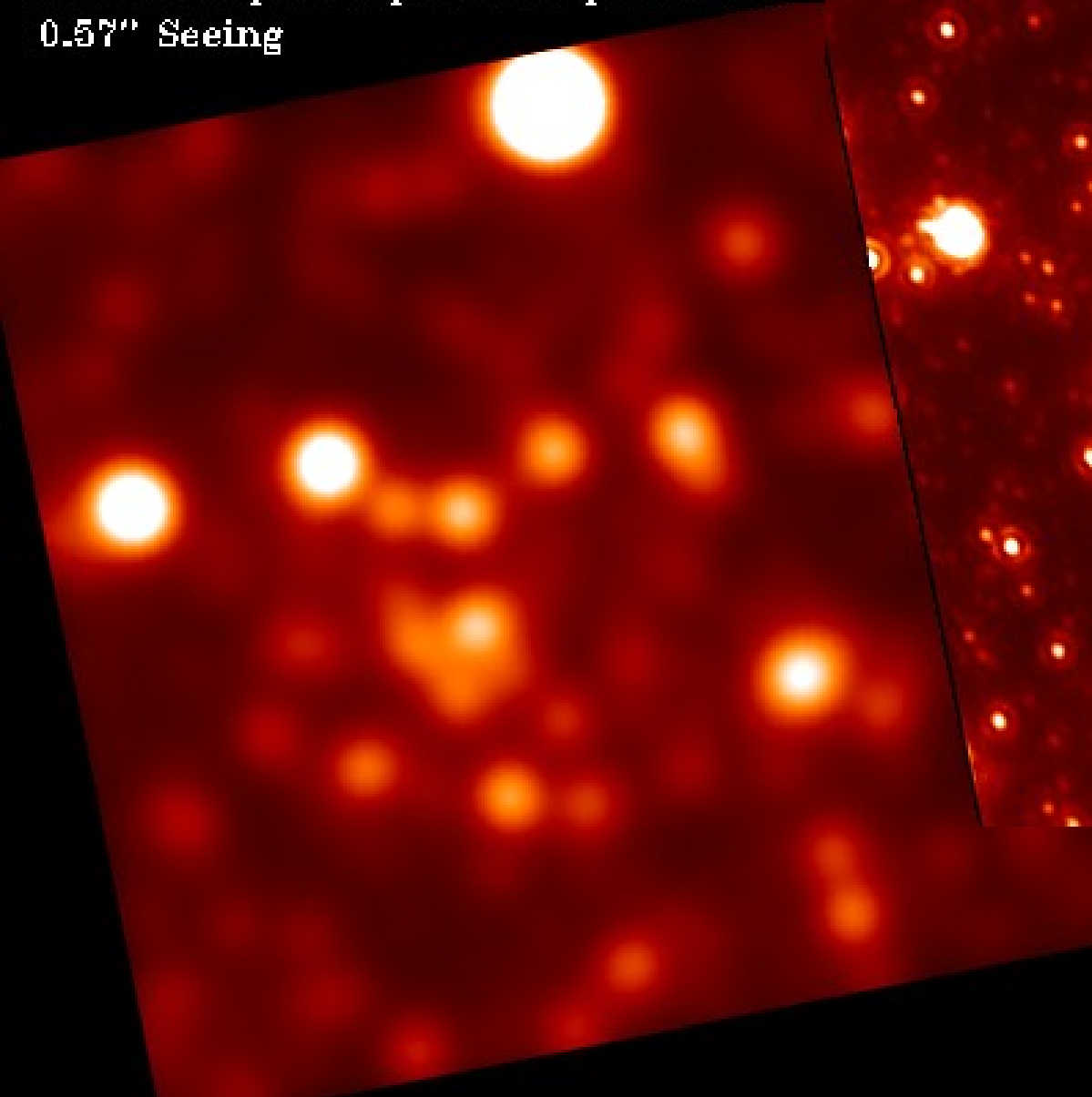
(d)



Galactic Center / 2.2 microns

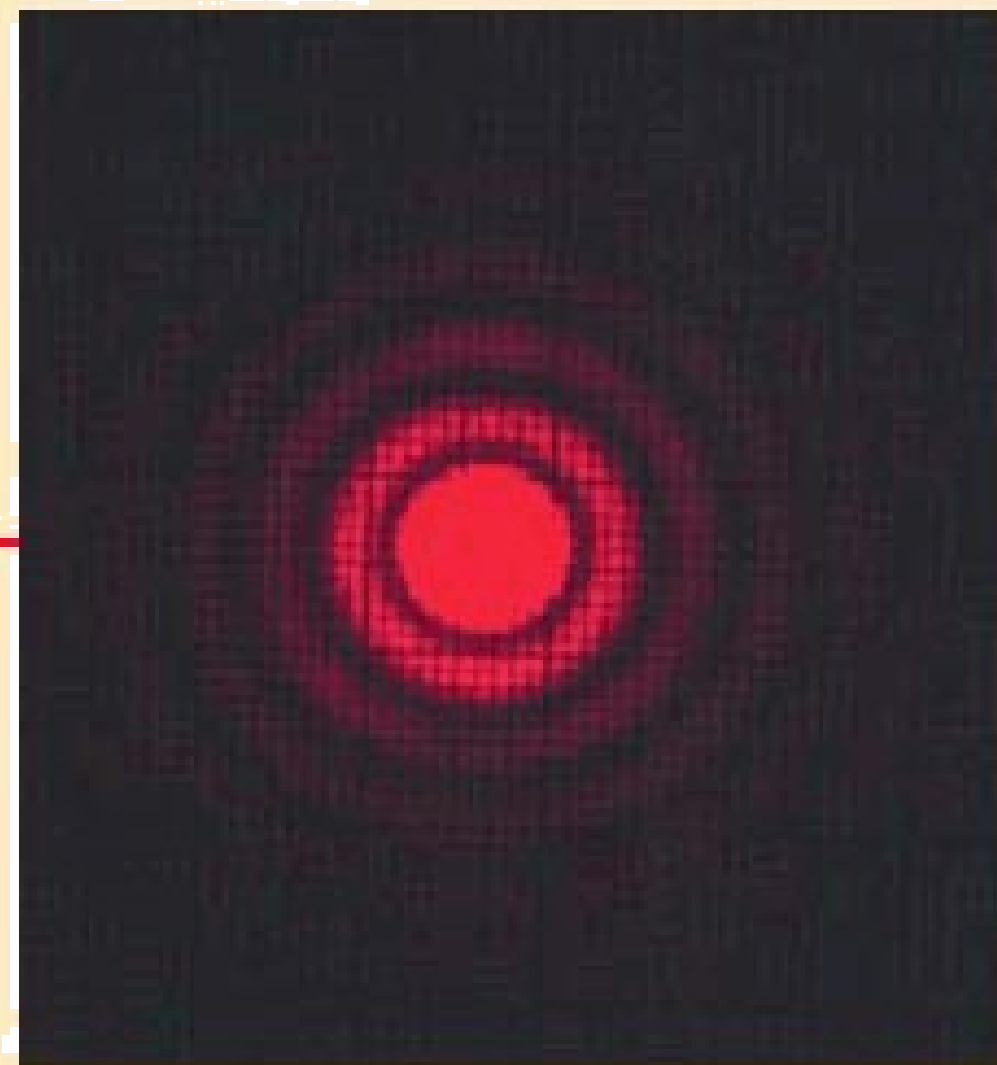
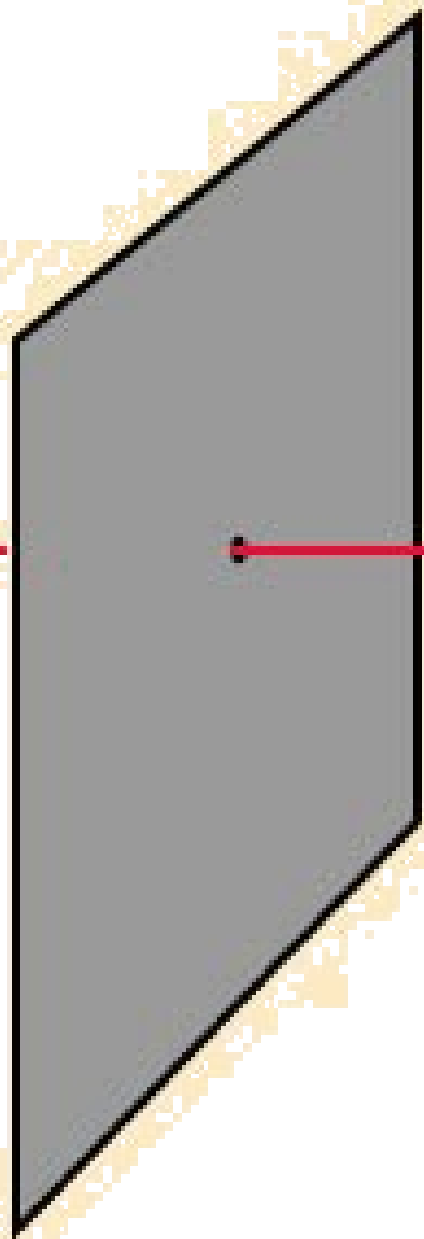
13"x13" Field. 15 minutes exposure.

Without Adaptive Optics compensation
0.57" Seeing



With Adaptive Optics compensation
0.19" Full Width at Half Maximum

Laser



(a)

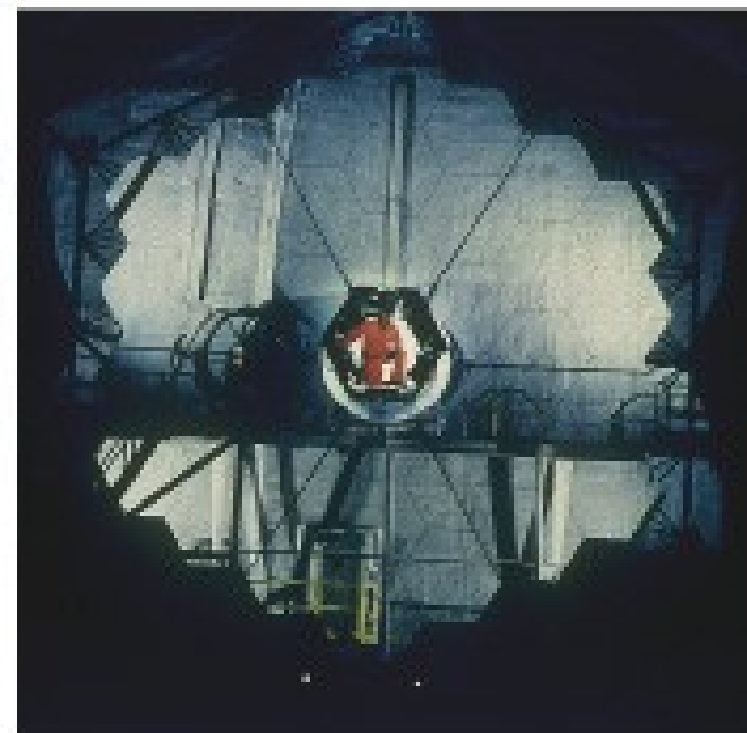
(b)

(c)

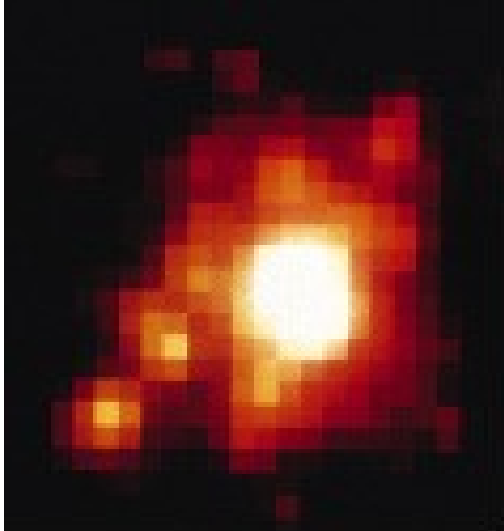




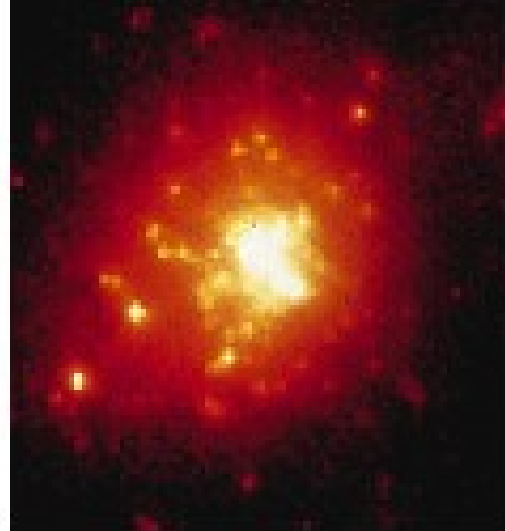
(a)



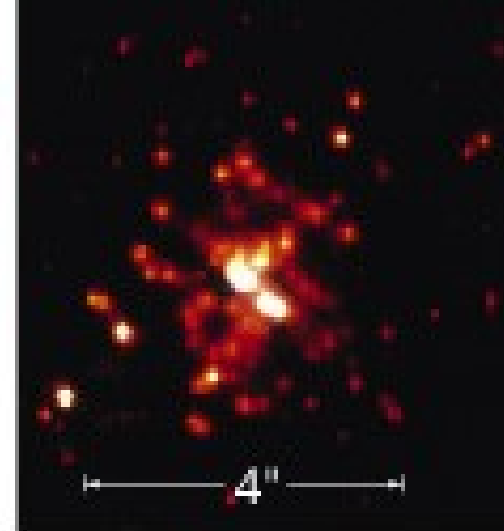
(b)



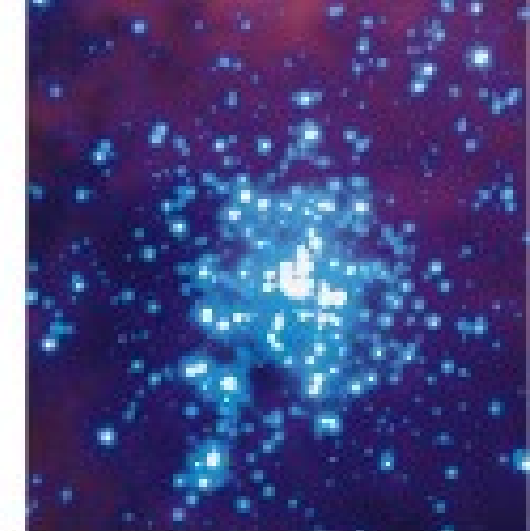
(a)



(b)

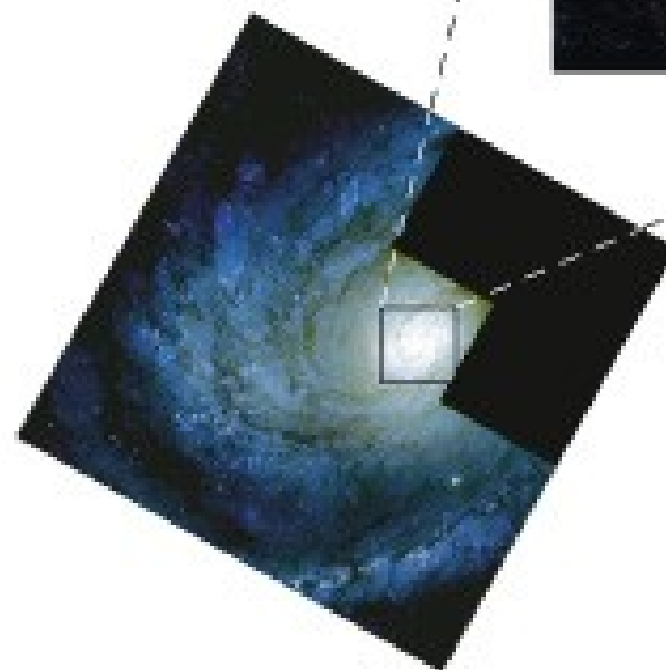


(c)



(d)

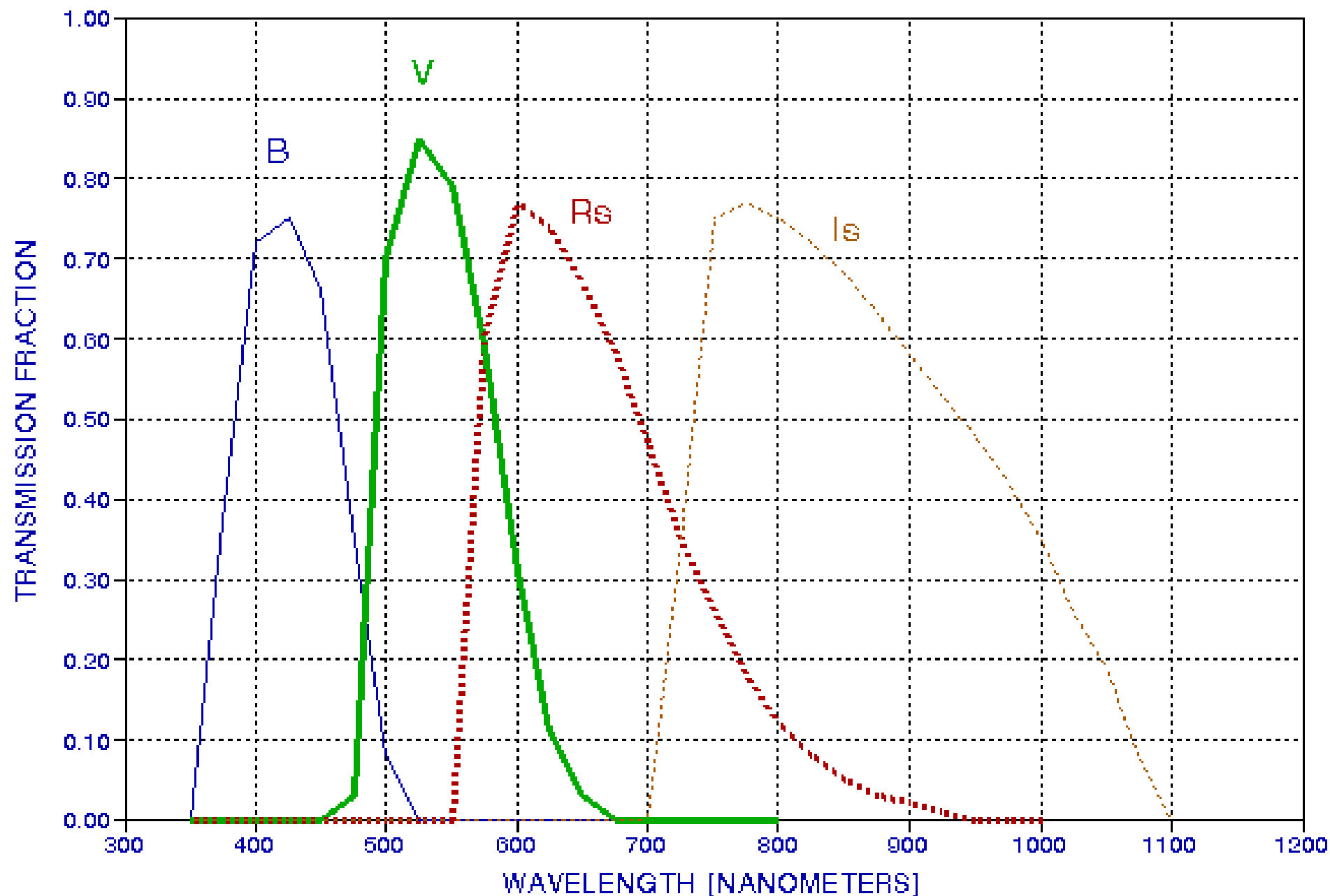




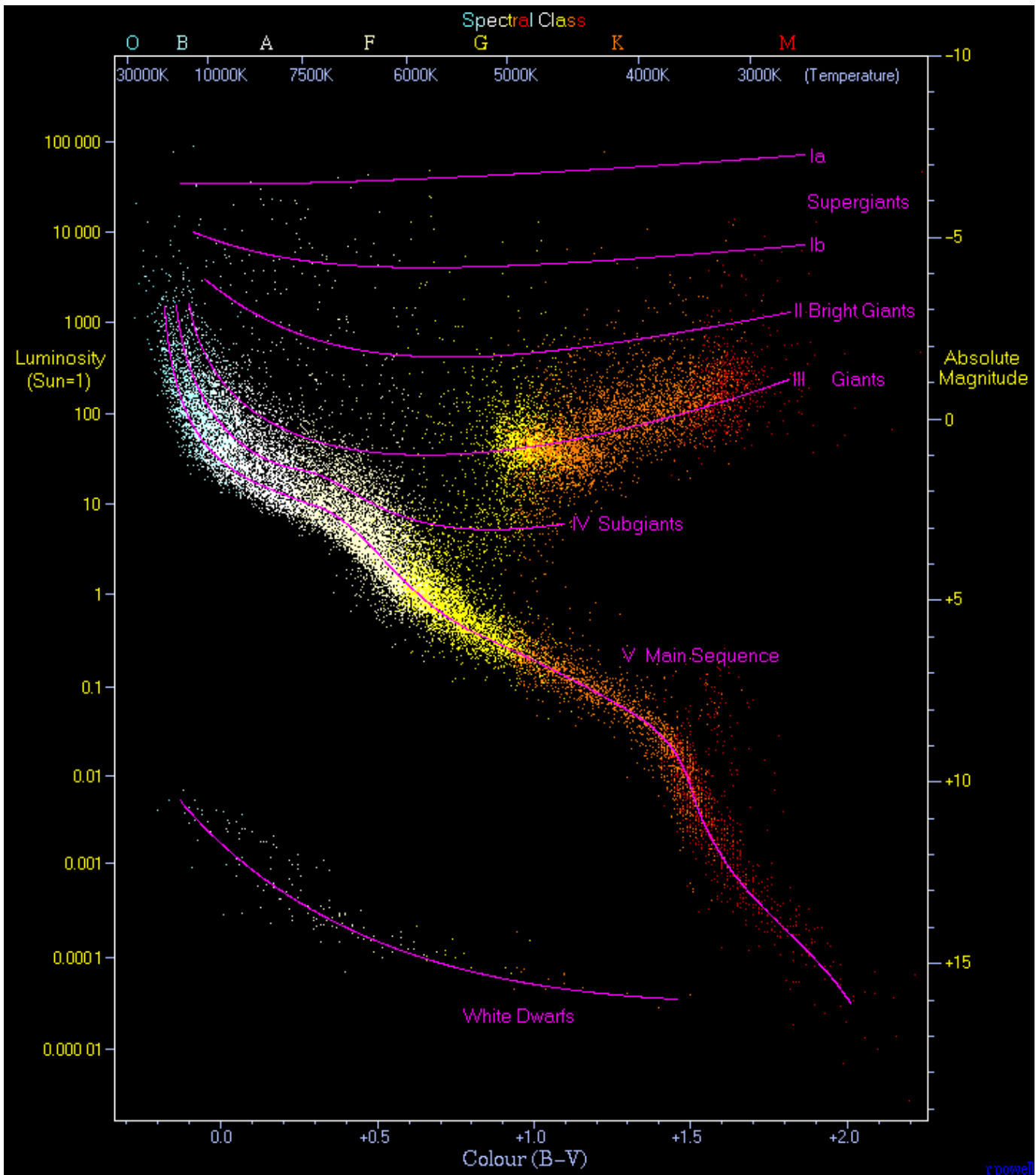
A temperatura e a cor das estrelas. Índices de cor

Medindo o brilho em diferentes cores podemos ter idéia das temperaturas

FILTER TRANSMISSION PASS BANDS (SCHULER FILTERS)

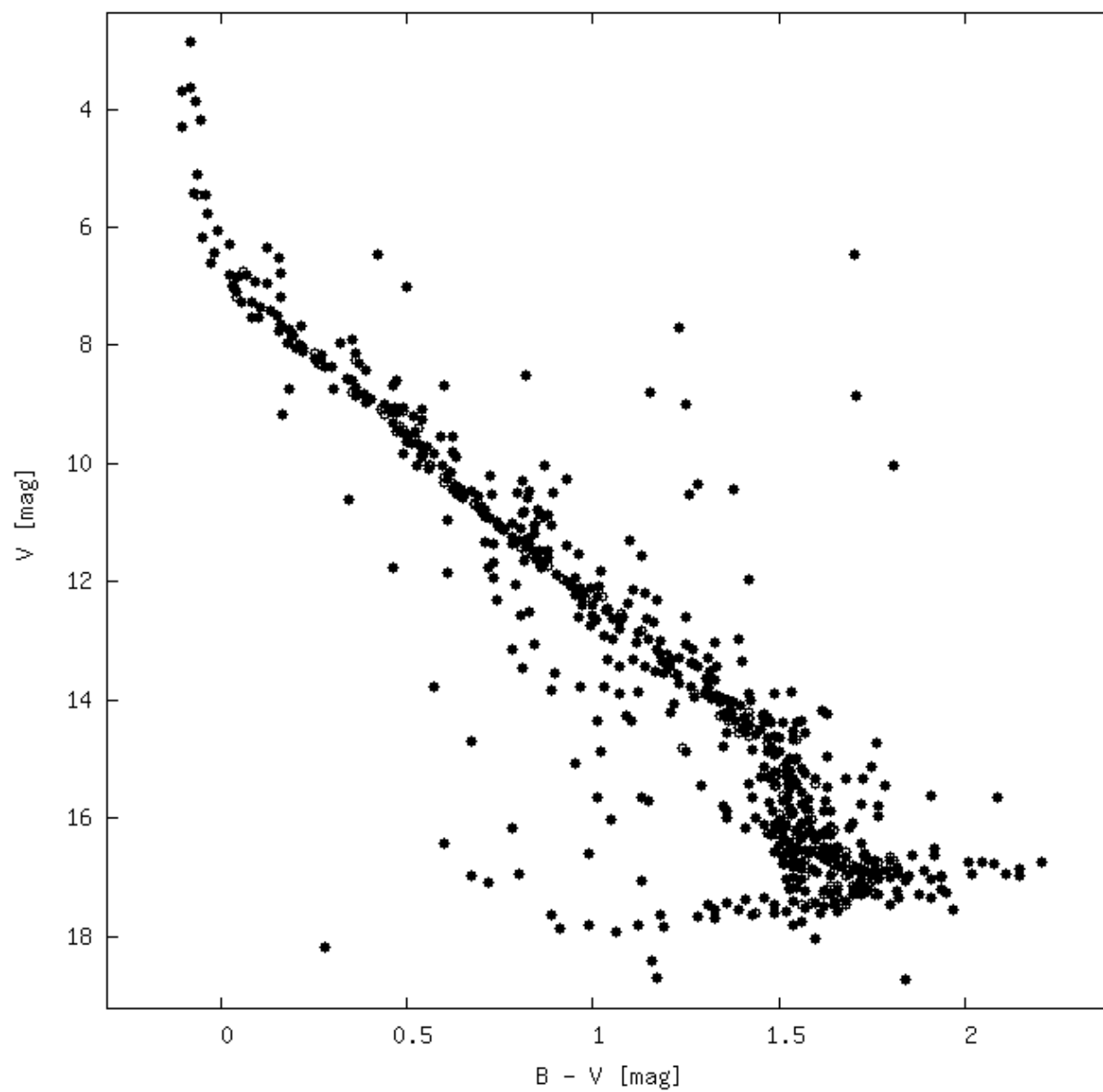


O diagrama de Hertzsprung-Russel:





Pleiades



Absolute magnitude $\rightarrow$

M 67
NGC 188

$\leftarrow$ Temperature

