Comunicação Escrita: Dicas e Primeiro Parágrafo

Jorge Meléndez

Divulgação em Astronomia – AGA0421

Público-alvo

- O público geral (população do Brasil 203 mi, do mundo 7,2 bi

TOP 10 MOST POPULOUS COUNTRIES

1. China	1,355,692,576	6. Pakistan	196,174,380
2. India	1,236,344,631	7. Nigeria	177,155,754
3. United States	318,892,103	8. Bangladesh	166,280,712
4. Indonesia	253,609,643	9. Russia	142,470,272
5. Brazil	202,656,788	10. Japan	127,103,388

Dados de 2014

- Decision-makers, opinion-makers or influencers (natureza política)
- Cientistas (importante para os próprios cientistas - artigos destacados na imprensa são mais citados)
- Outros específicos: *teachers, kids, industry, etc.*

Exatidão vs. Simplificação

The "perfect world" ...

The main objective of science communication is to describe the workings of nature truthfully.

...vs. the "real world"

But without the necessary appeal you may have very few readers and your efforts will be futile.

$$B_\lambda = -B_\nu \frac{\mathrm{d}\nu}{\mathrm{d}\lambda} = \frac{c}{\lambda^2} B_\nu = \frac{2hc^2}{\lambda^5} \frac{1}{e^{\frac{hc}{\lambda kT}} - 1}$$

Apresentação é importante!

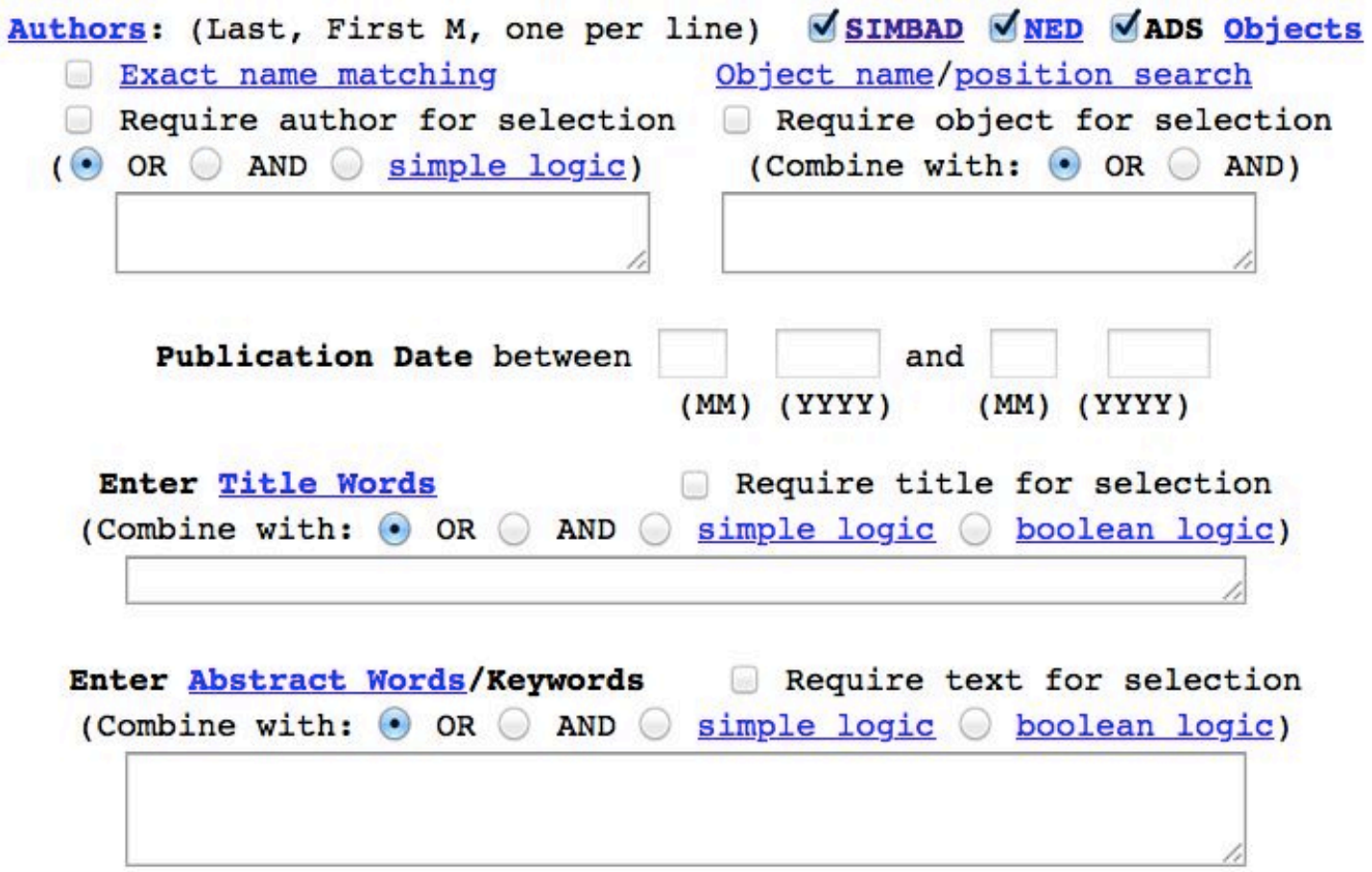
Paola Carosella ao Fernando:
“dá na mesma se jogar no lixo!”

Dicas para divulgação científica escrita

- Pode tentar responder as *five (or six) golden questions: What? When? Where? Who? Why? How?*
- **O que?, Quando?, Onde?, Quem?, Por que?, Como?**

Procurar a literatura sobre o tema, ambos material para o público em geral (textos, wikipedia) e artigos para astrônomos (ADS)

http://adsabs.harvard.edu/abstract_service.html



Brainstorm (antes de começar a escrever!)

- Verificar os diferentes elementos do tema
- Decida qual ângulo explorar
- Decida o "*core message*" da sua matéria. Tente responder em uma linha: ***What is the main point of this story?***
- Se necessário, dividir a matéria em seções (pense em títulos "sexy" para cada seção)

Simplify
"each equation halves the audience"

- Claro, Conciso, Preciso (válido tb para artigos)
- Sentenças curtas
- Linguagem simples
- Evite clichés (porem, às vezes útil)
- Esqueça um pouco dos "porem" da pesquisa
- Read, edit, read, edit, read, edit, read ...
  (se possível, peça para uma pessoa ler)

Press releases

- **Título**: descrever o conteúdo da matéria porem não é necessariamente uma manchete

- O título é muito importante pois os jornalistas revisam muitos press-releases, então o título tem que ser atraente

Primeiro parágrafo: estilo jornalístico

- Six golden questions (não necessariamente todas)
- Who? = who did the research;
- What? = what is the main point;
- Where? = location of research group or event;
- Why? = why is it news?
- When? = time of the publication or event;
- How? = how the research was done.

O que?, Quando?, Onde?, Quem?, Por que?, Como?

Exemplo: artigo na Nature

Snellen et al. 2014 Nature 509, 63
http://adsabs.harvard.edu/abs/2014Natur.509...63S

Fast spin of the young extrasolar planet β Pictoris b

The spin of a planet arises from the accretion of angular momentum during its formation[1–3], but the details of this process are still unclear. In the Solar System, the equatorial rotation velocities and, consequently, spin angular momenta of most of the planets increase with planetary mass[4]; the exceptions to this trend are Mercury and Venus, which, since formation, have significantly spun down because of tidal interactions[5,6]. Here we report near-infrared spectroscopic observations, at a resolving power of 100,000, of the young extrasolar gas giant planet β Pictoris b (refs 7, 8). The absorption signal from carbon monoxide in the planet's thermal spectrum is found to be blueshifted with respect to that from the parent star by approximately 15 kilometres per second, consistent with a circular orbit[9]. The combined line profile exhibits a rotational broadening of about 25 kilometres per second, meaning that β Pictoris b spins significantly faster than any planet in the Solar System, in line with the extrapolation of the known trend in spin velocity with planet mass.

What? When? Where? Who? Why? How?

Homework#4 – part A (6 points).

A) Read Nature article (10min?) and answer 3 of the 6 golden questions.

Entregar na sala de aula (23/set).

ESO press release

http://www.eso.org/public/news/eso1414/

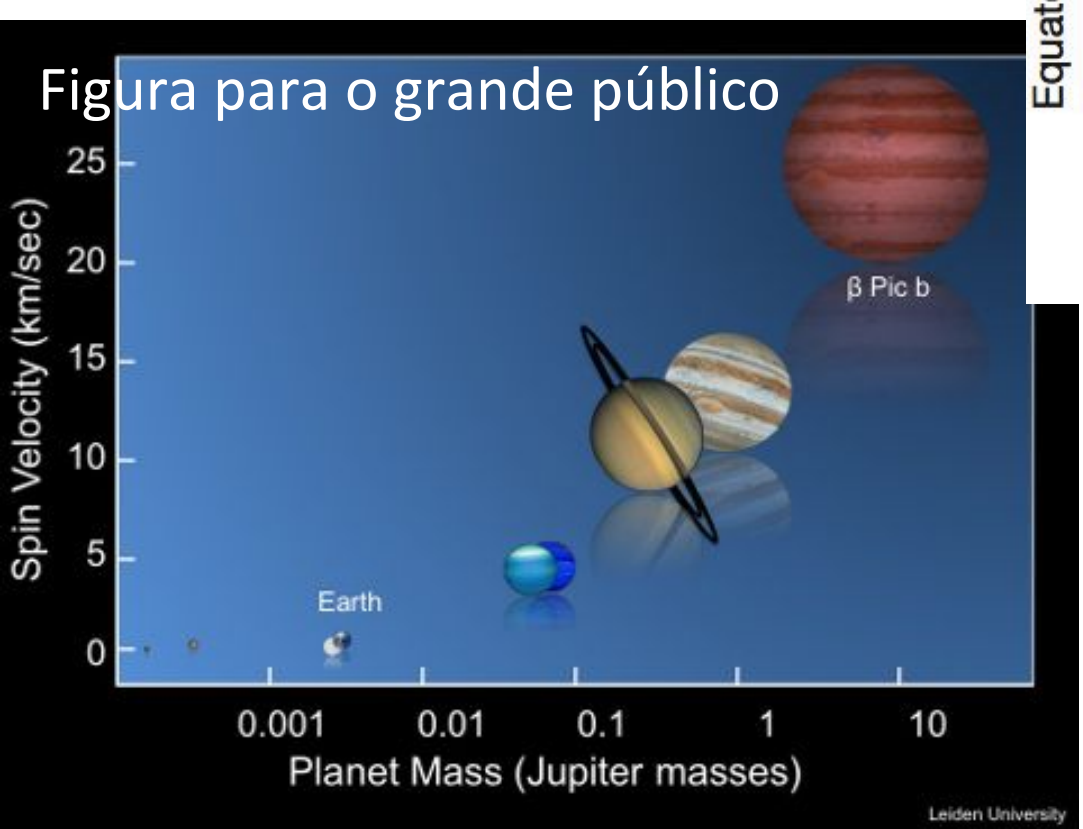
Length of Exoplanet Day Measured for First Time

VLT measures the spin of Beta Pictoris b

30 April 2014

Observations from ESO's Very Large Telescope (VLT) have, for the first time, determined the rotation rate of an exoplanet. Beta Pictoris b has been found to have a day that lasts only eight hours. This is much quicker than any planet in the Solar System — its equator is moving at almost 100 000 kilometres per hour. This new result extends the relation between mass and rotation seen in the Solar System to exoplanets. Similar techniques will allow astronomers to map exoplanets in detail in the future with the European Extremely Large Telescope.

O gráfico para divulgação devia ter o eixo-Y em escala logarítmica! Assim a correlação ficaria mais clara



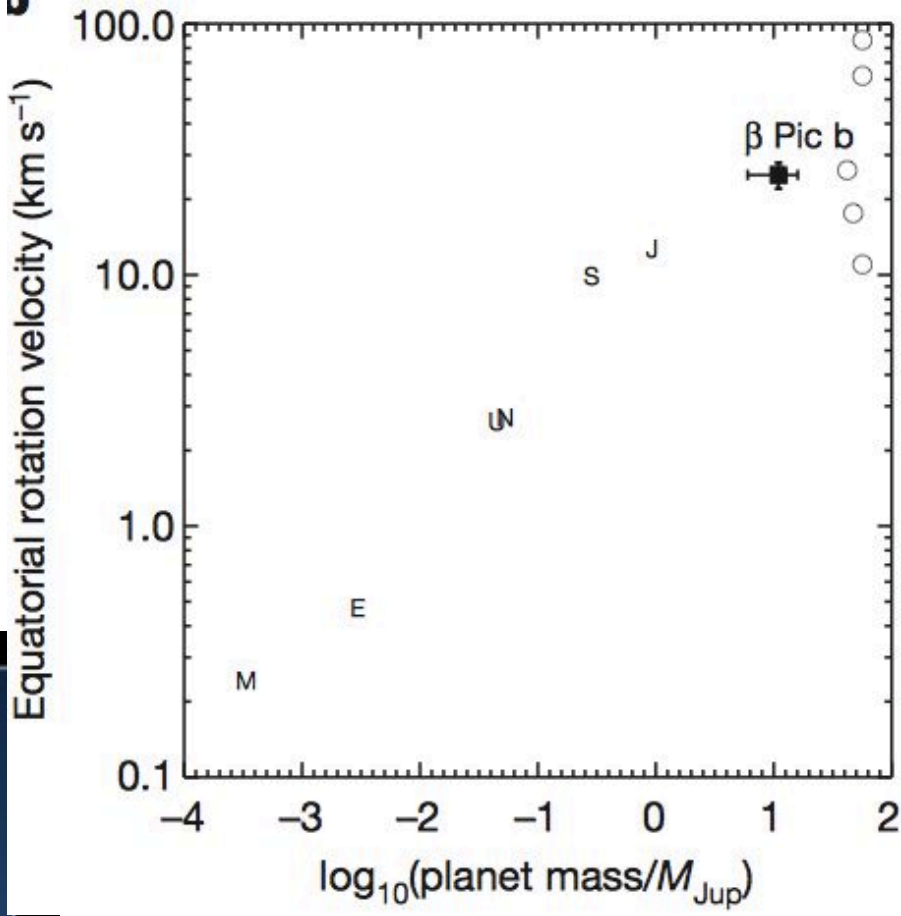
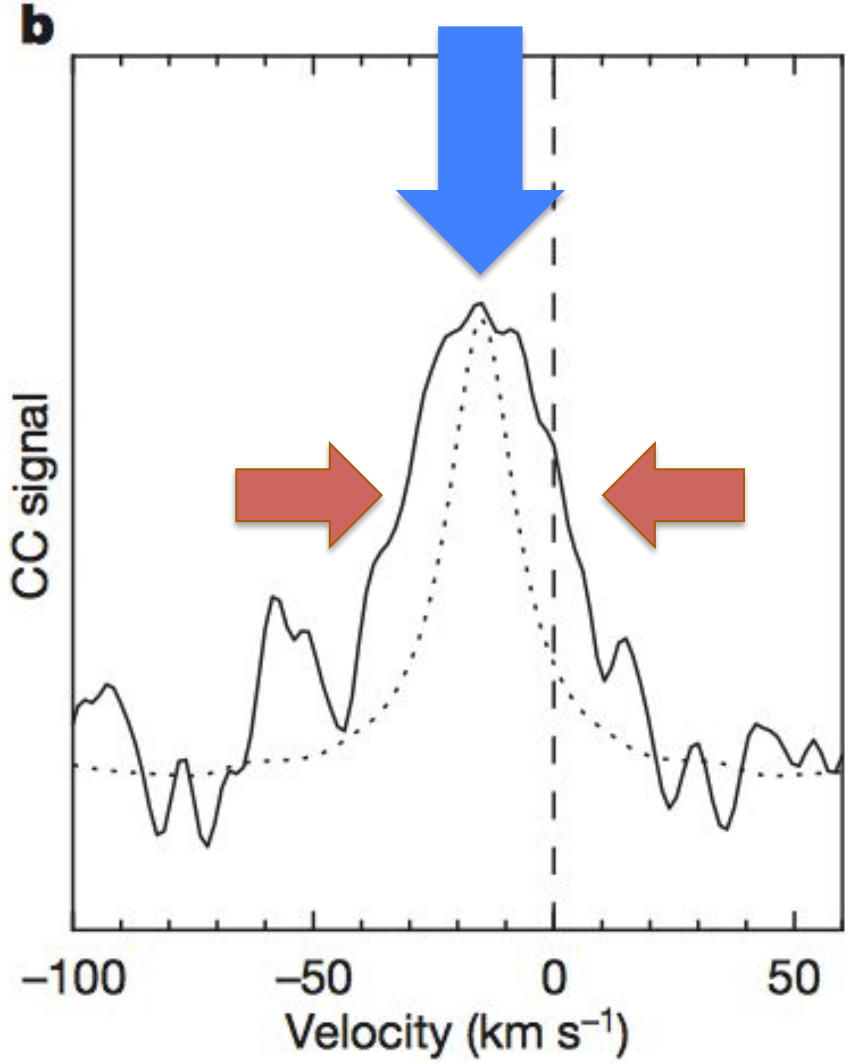


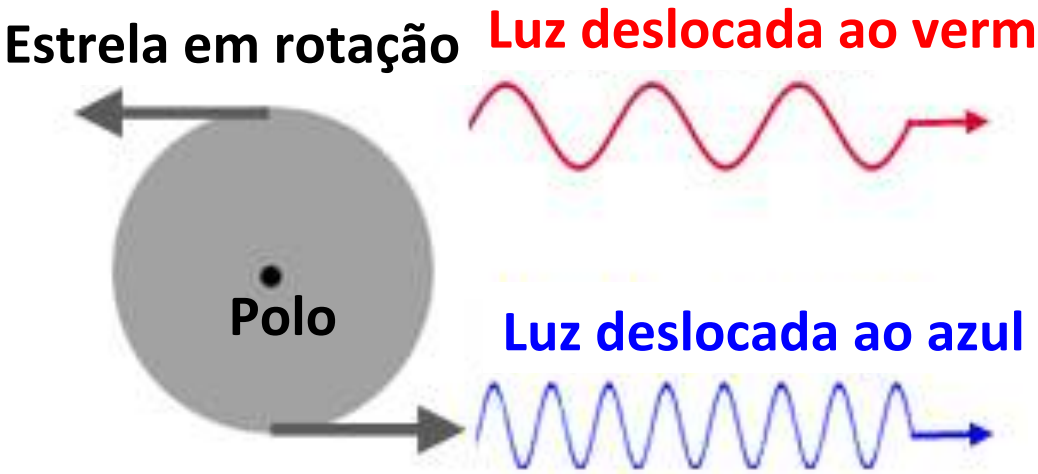
Figura para o artigo na *Nature*

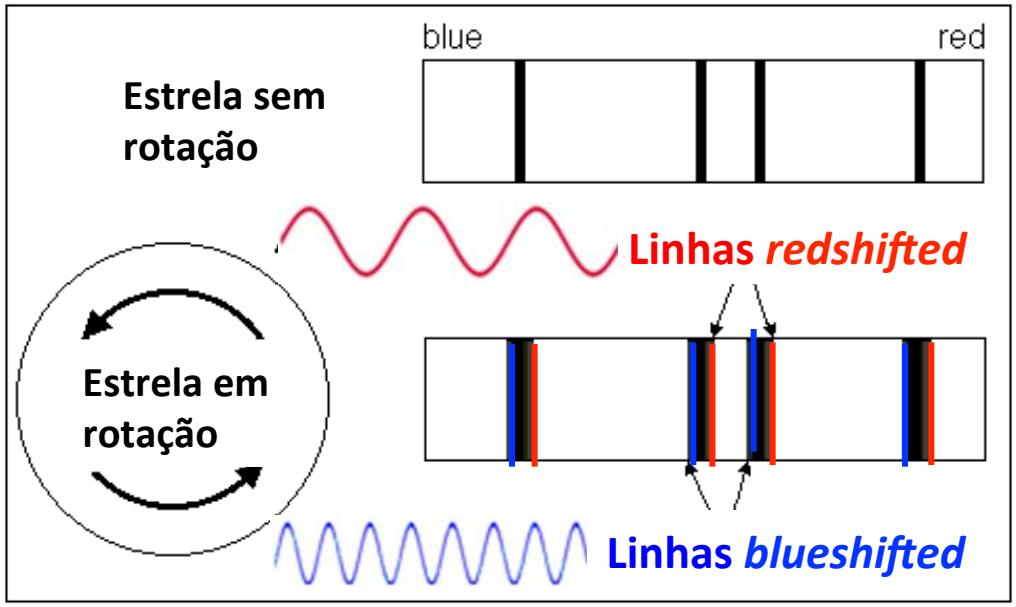
The planet is approaching Earth! (blueshift)



Largura indica velocidade de rotação do planeta

Efeito de alargamento das linhas do espectro de uma estrela devido à velocidade de rotação (similar ao alargamento nas linhas do exoplaneta)





What? When? Where? Who? Why? How?

Homework#4 – part B (4 points)

B) Identify in the next "first paragraph" 4 of the six golden questions.

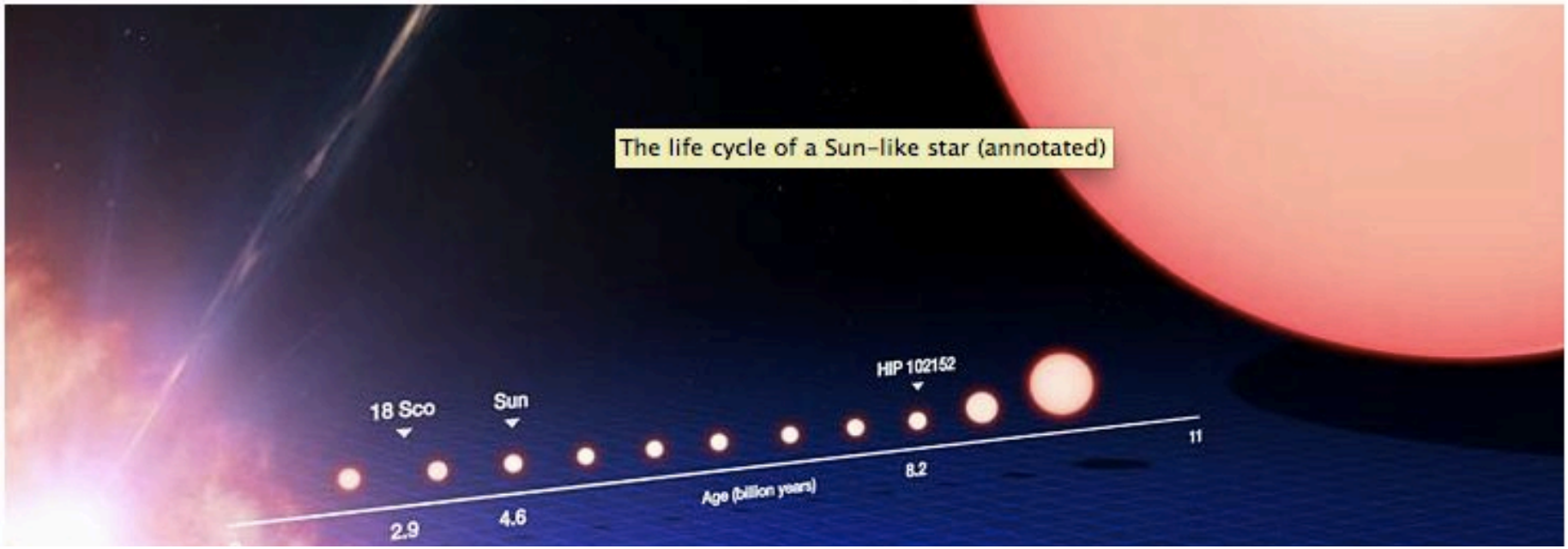
Entregar na sala de aula (23/set).

Oldest Solar Twin Identified

http://www.eso.org/public/news/eso1337/

ESO's VLT provides new clues to help solve lithium mystery

28 August 2013



An international team led by astronomers in Brazil has used ESO's Very Large Telescope to identify and study the oldest solar twin known to date. Located 250 light-years from Earth, the star HIP 102152 is more like the Sun than any other solar twin — except that it is nearly four billion years older. This older, but almost identical, twin gives us an unprecedented chance to see how the Sun will look when it ages. The new observations also provide an important first clear link between a star's age and its lithium content, and in addition suggest that HIP 102152 may be host to rocky terrestrial planets.