

SCIENCE DIALOG

Senior High School Attached to
Kyoto University of Education
Feb. 20th 2009

はじめまして、
藤井友香　　といいます。

- 京都教育大学附属高校 (2004年卒業)
 - 東京大学理科I類
 - 東京大学理学部物理学科
 - 東京大学大学院理学系研究科宇宙理論研究室
(2008年度現在修士課程1年)
- ▶ 専門分野：系外惑星

ABOUT OUR WORK

“EXOPLANETS”

||
planets outside the solar system

340 exoplanets have been found in our galaxy.

questions :

How are planetary systems formed ?

Is our solar system common ?

Do we have friends in the universe ?

etc ...

WHAT'S GOING ON

in exoplanets study

- finding more exoplanets
 - ▶ more various exoplanetsfor general understanding of planets
 - ▶ smaller, more earth-like planetsand search for life
- characterizing exoplanets
- analyzing exoplanets statistically
- theory for planetary formation
- simulation

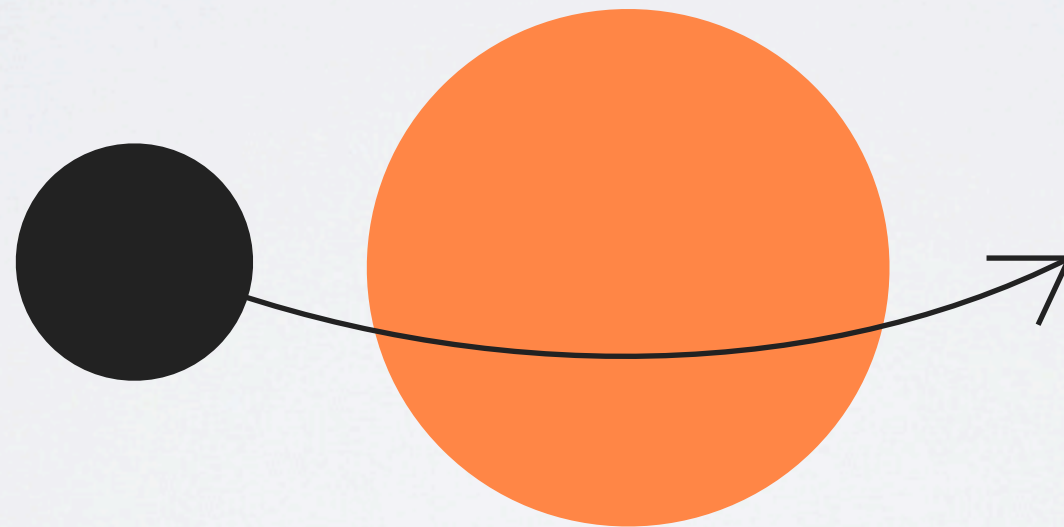
EXAMPLE

- transiting planet = planet passes in front of star



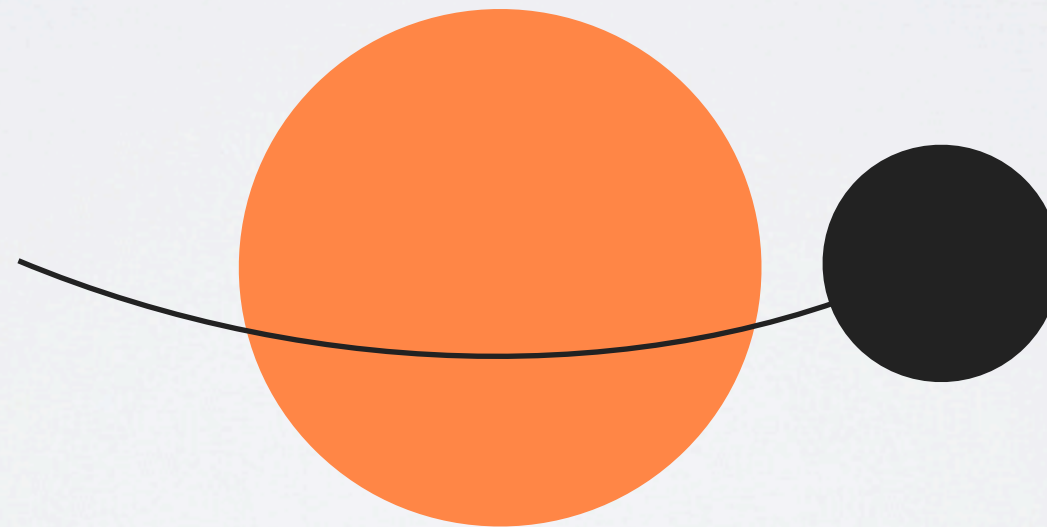
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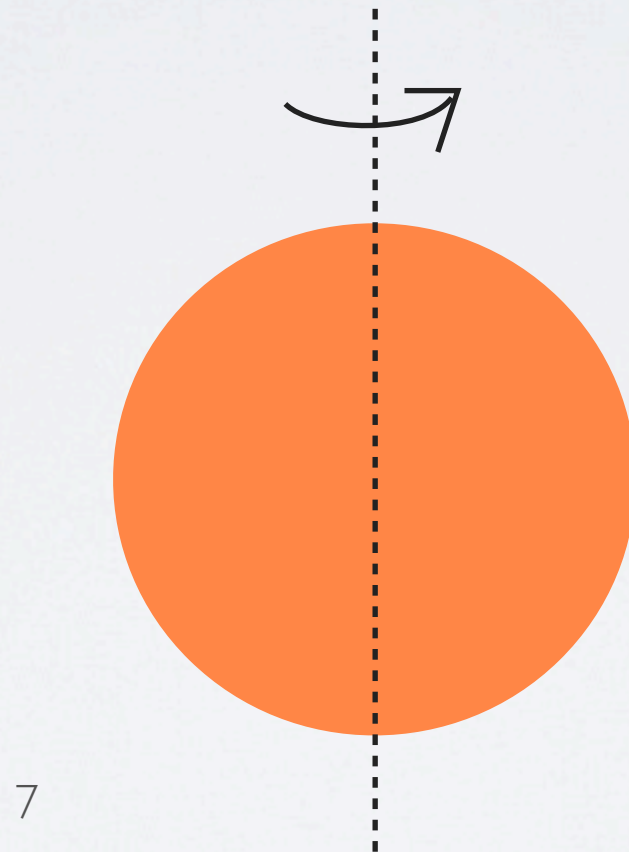
EXAMPLE

- transiting planet = planet passes in front of star



EXAMPLE

- transiting planets around rotating star



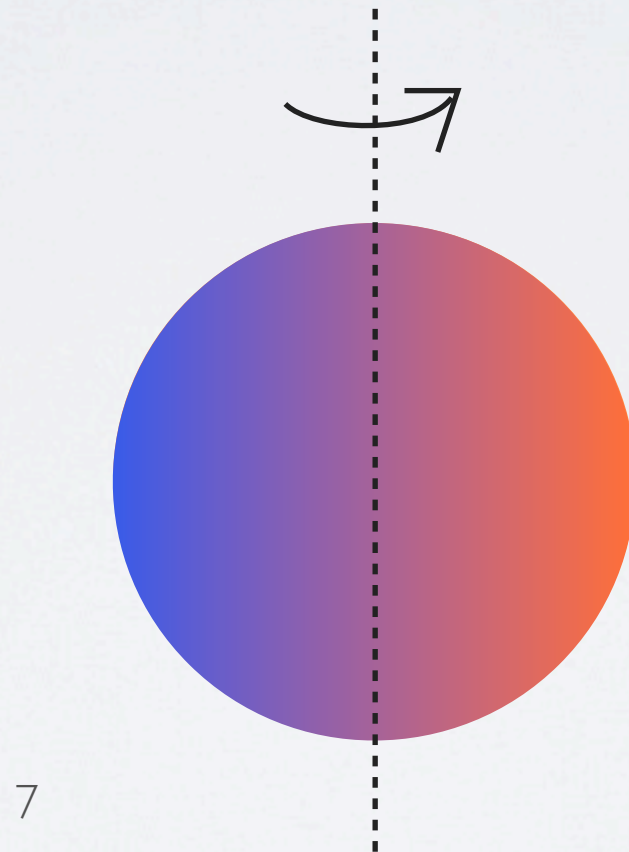
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EXAMPLE

- transiting planets around rotating star

blueshift

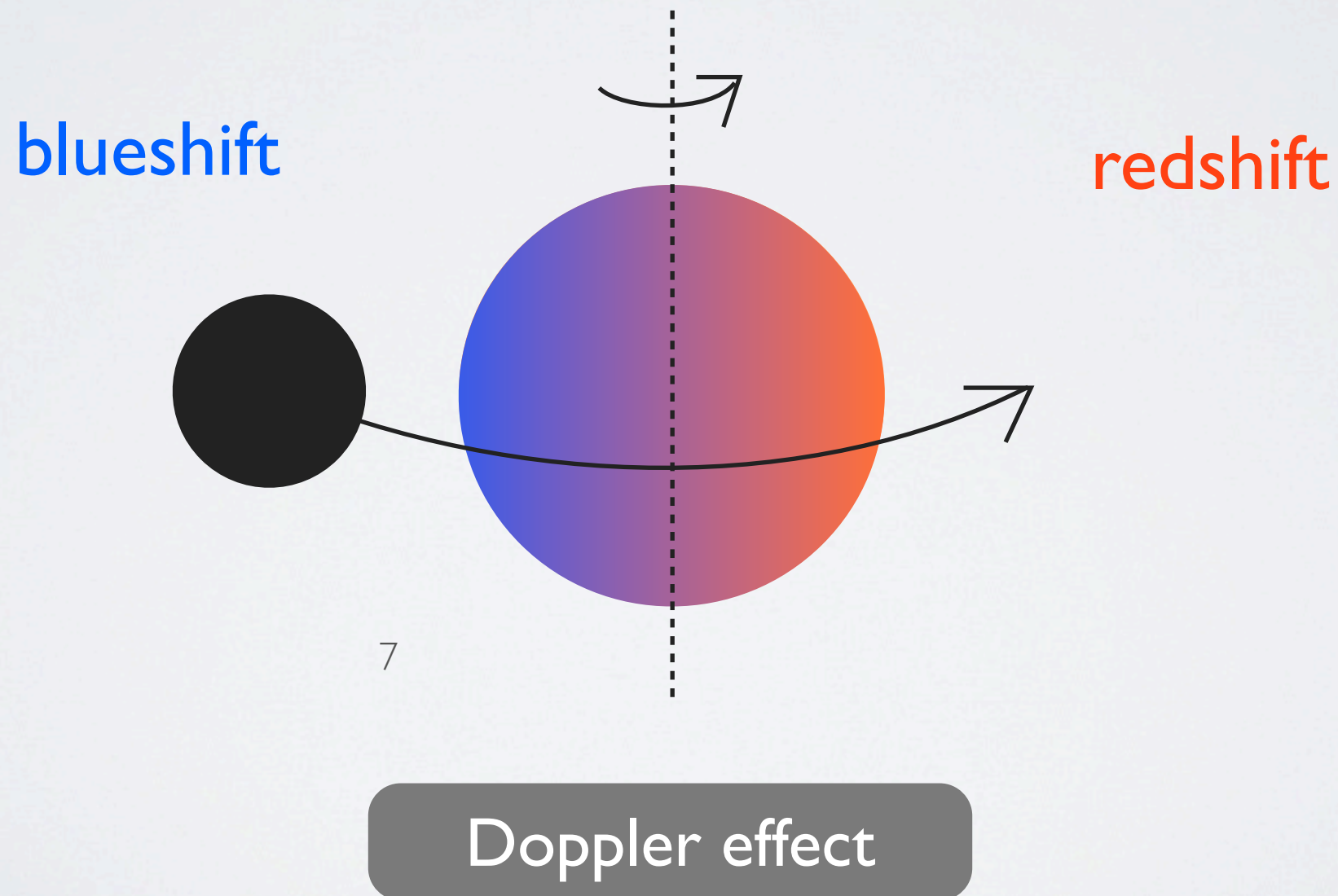
redshift



Doppler effect

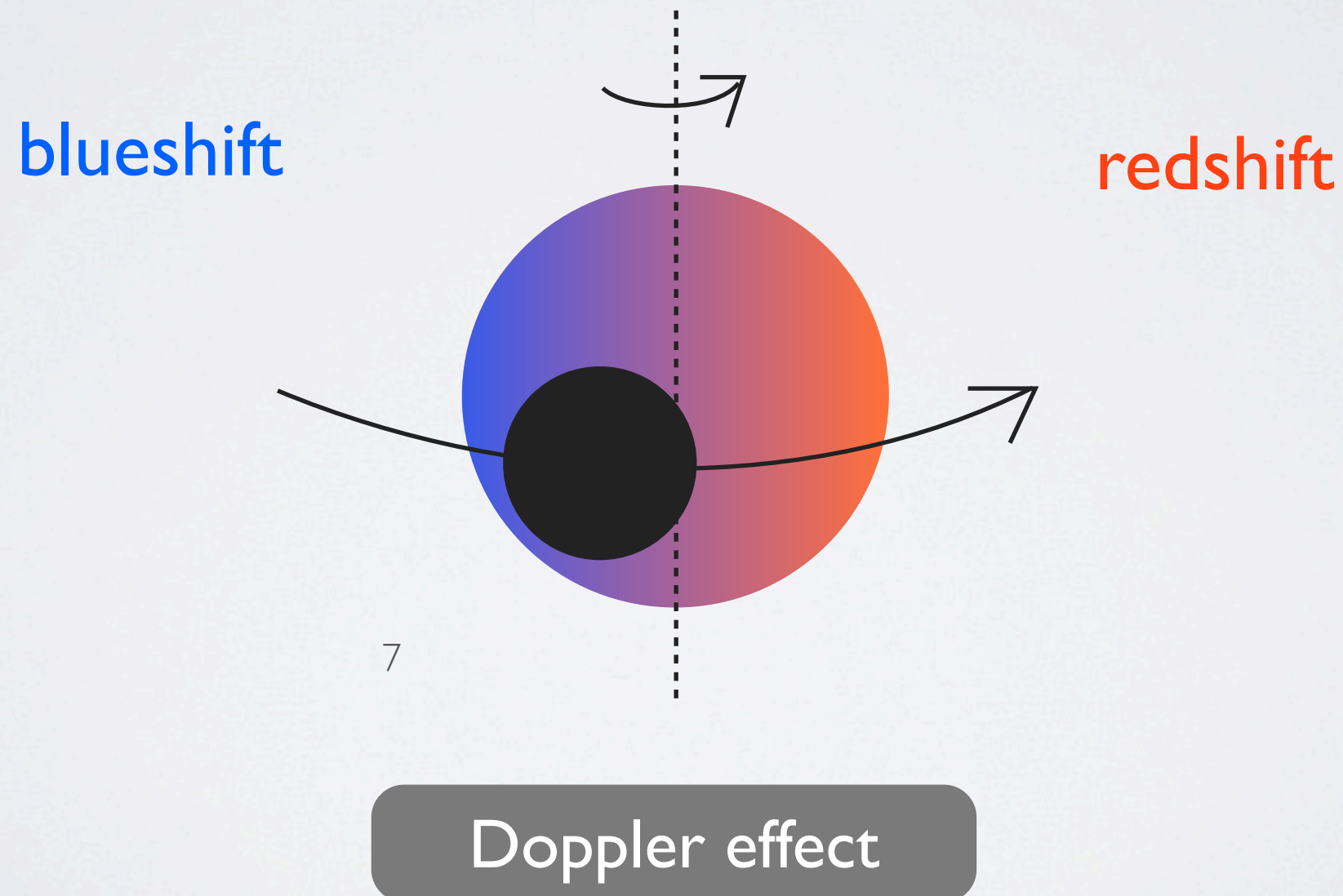
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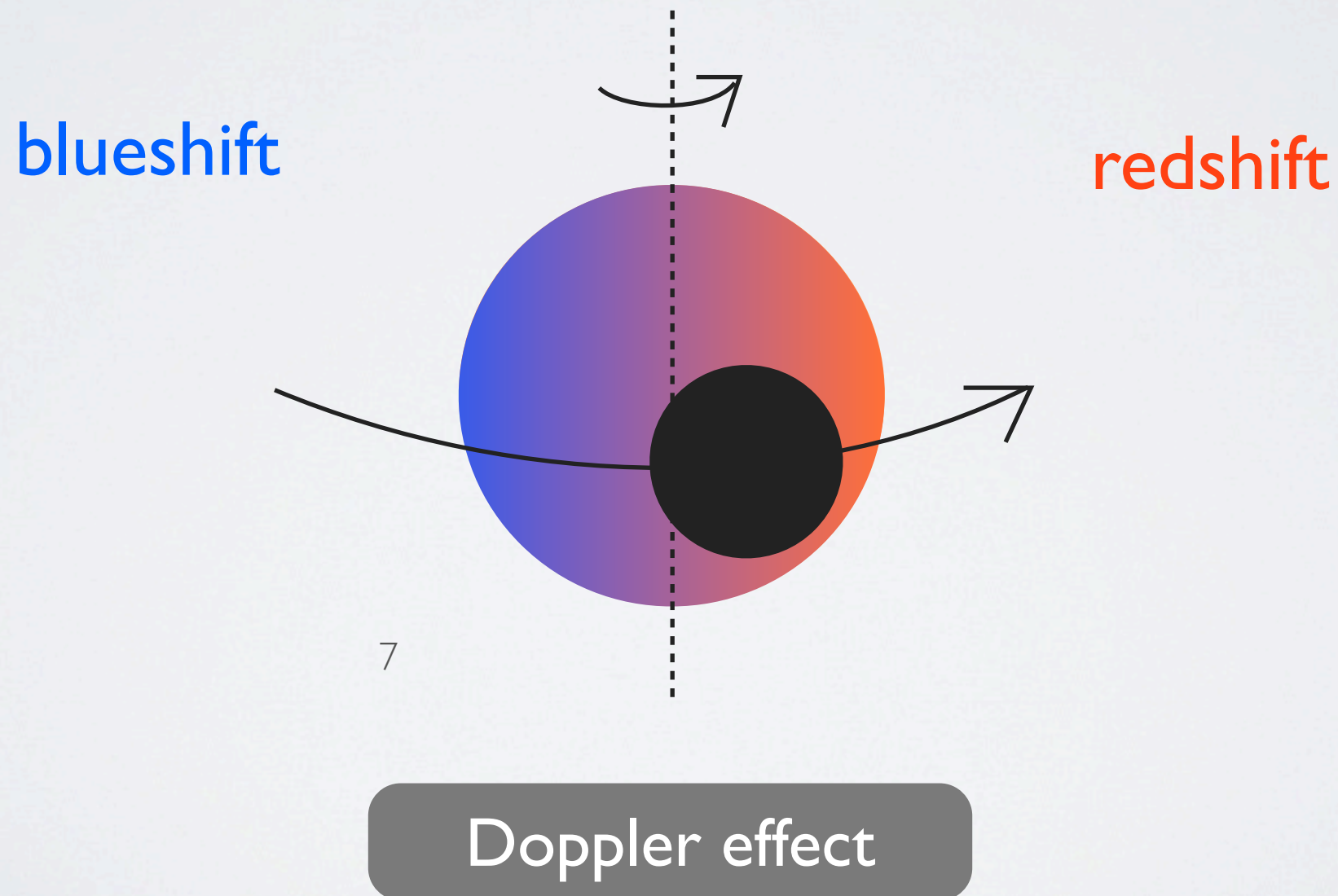
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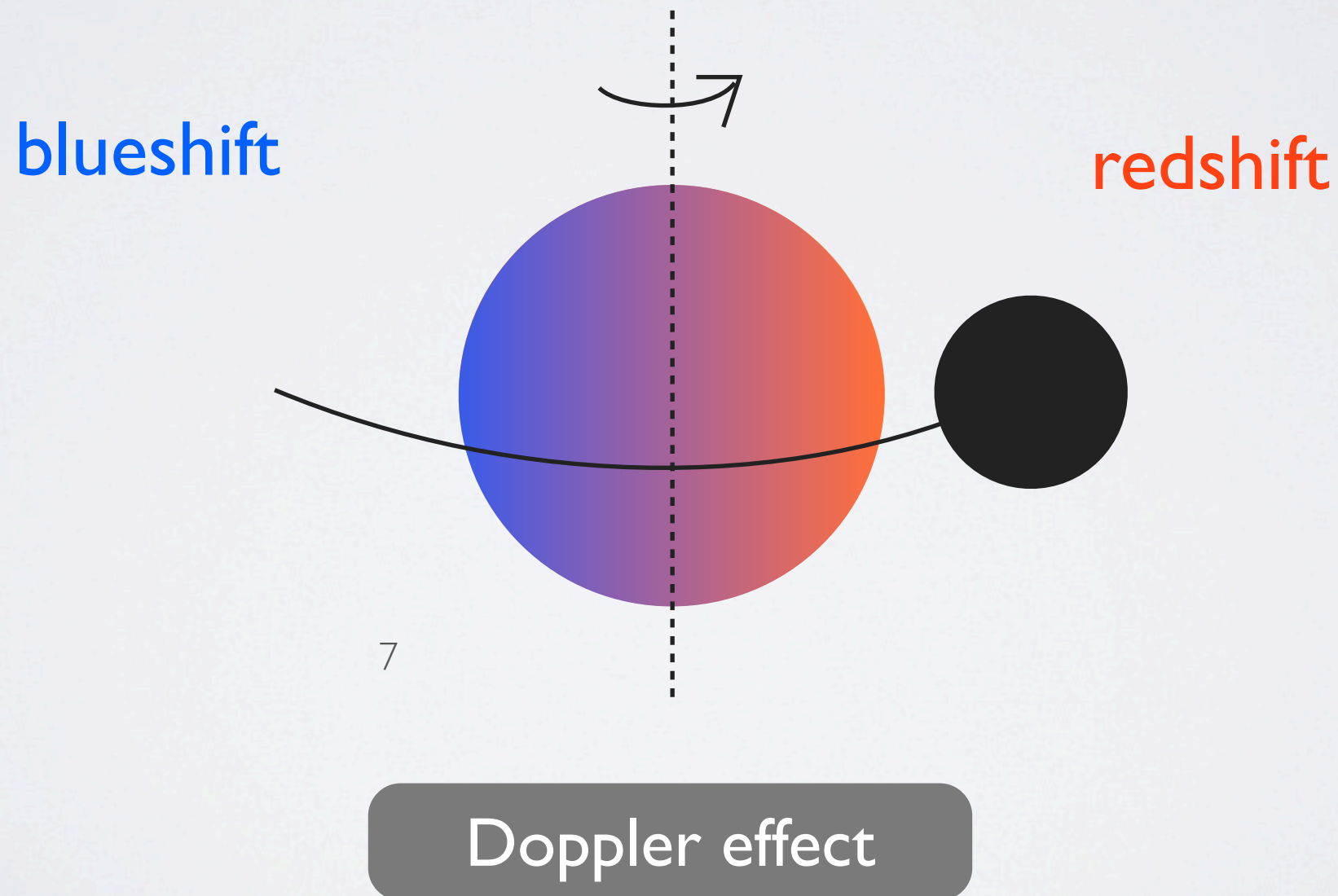
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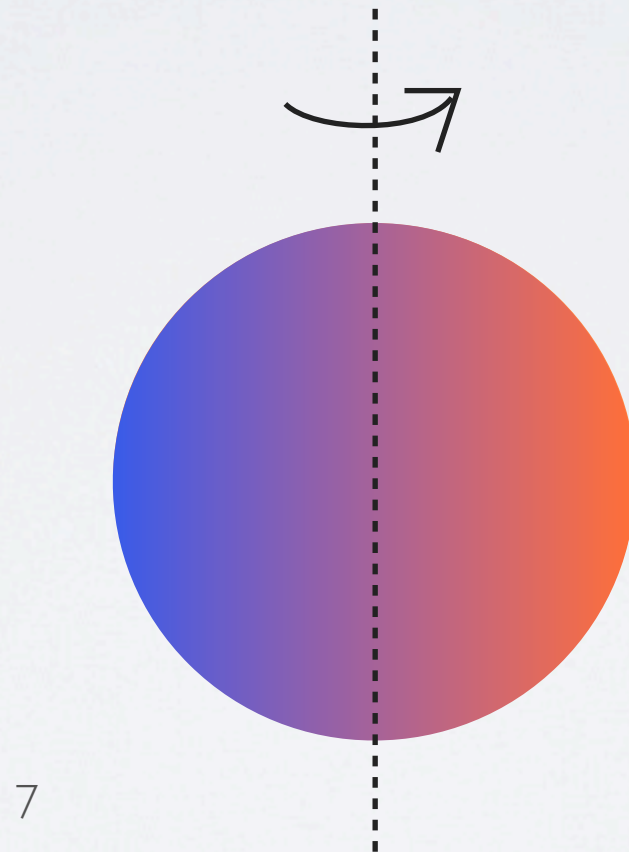


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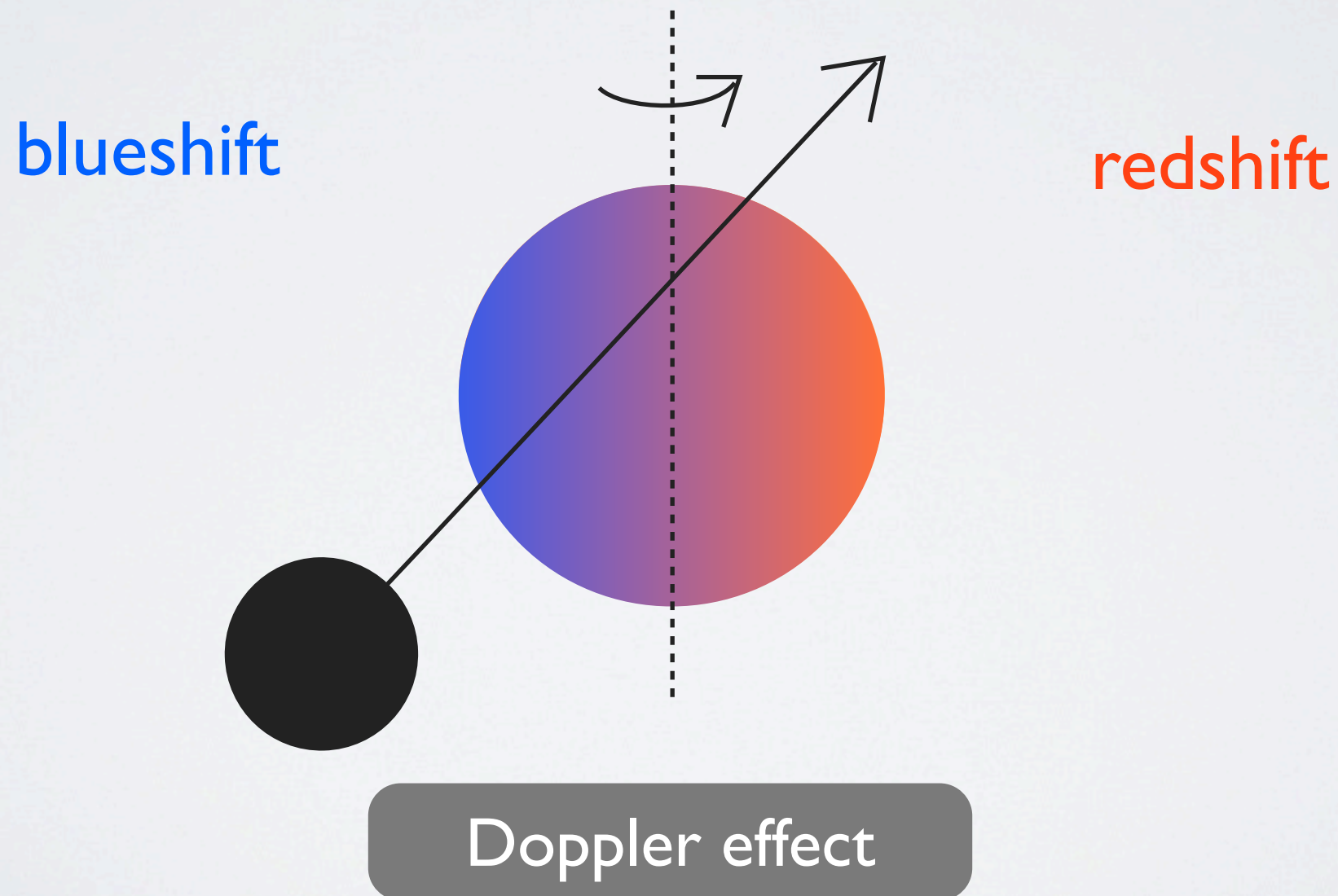
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Doppler effect

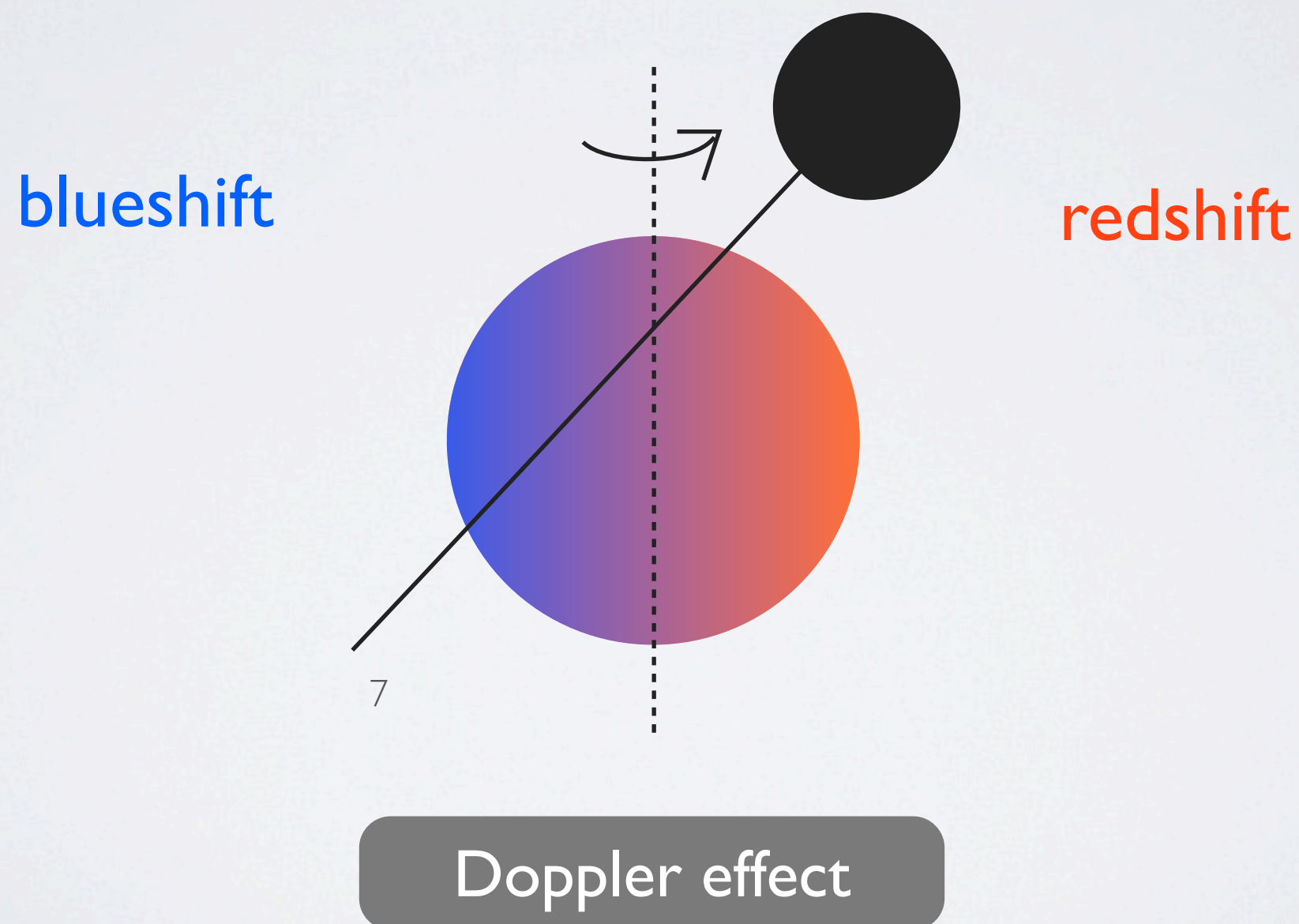
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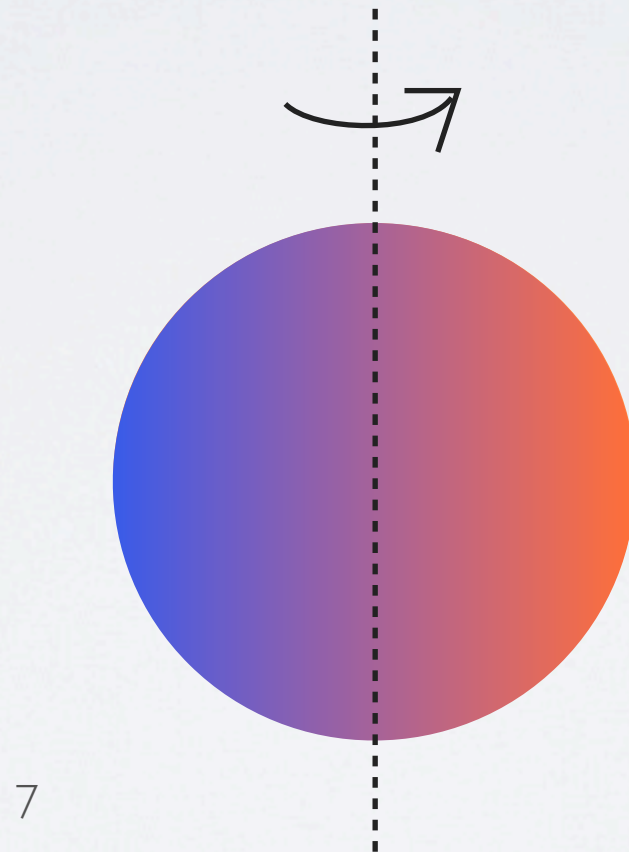


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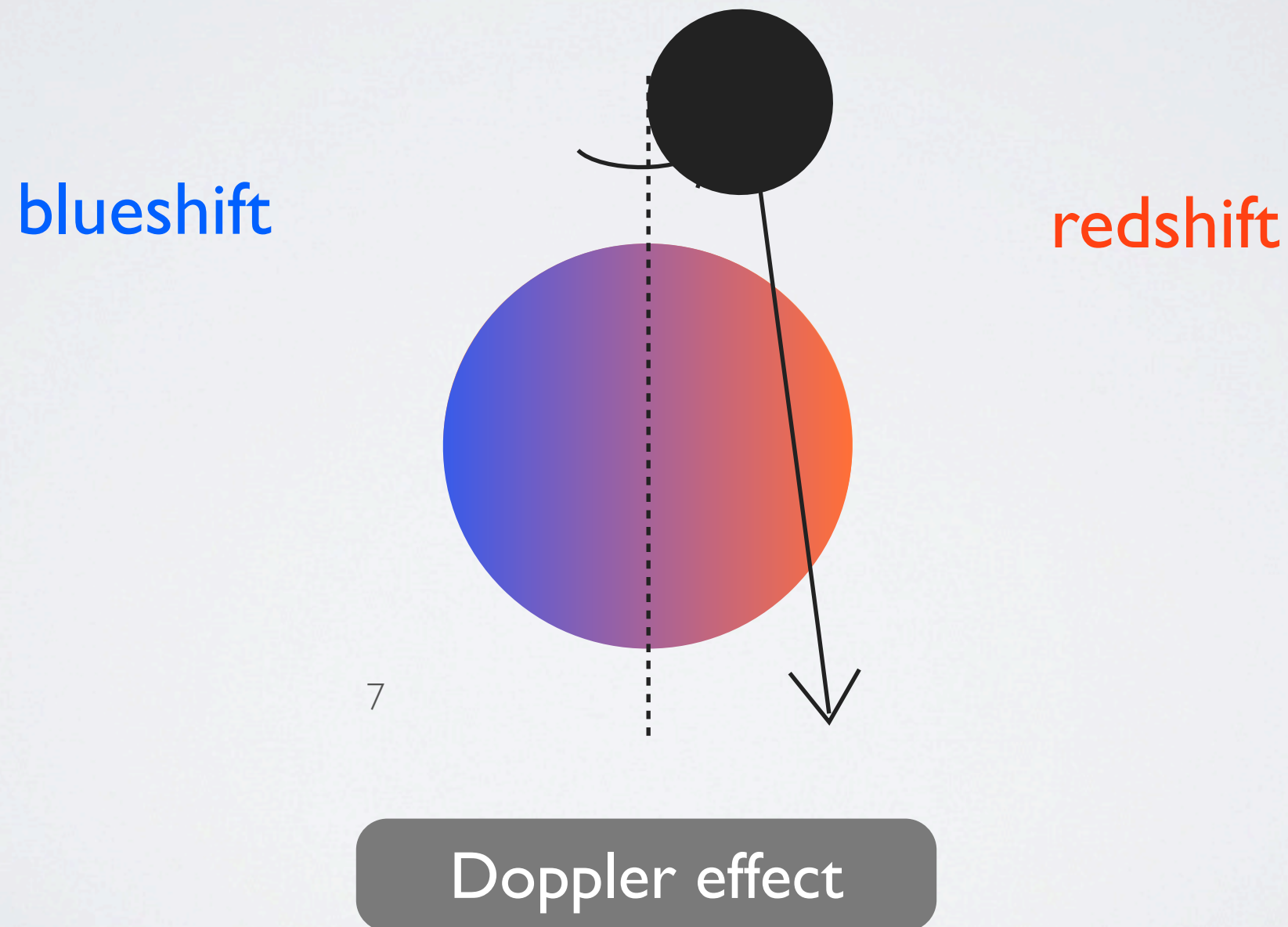
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Doppler effect

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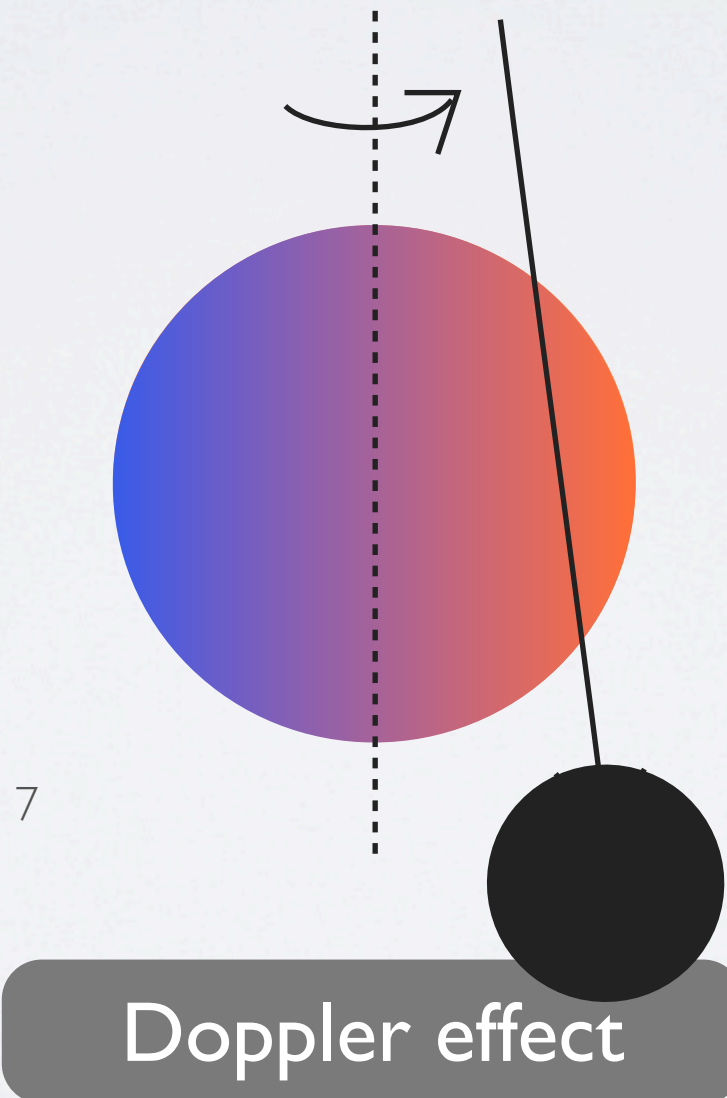


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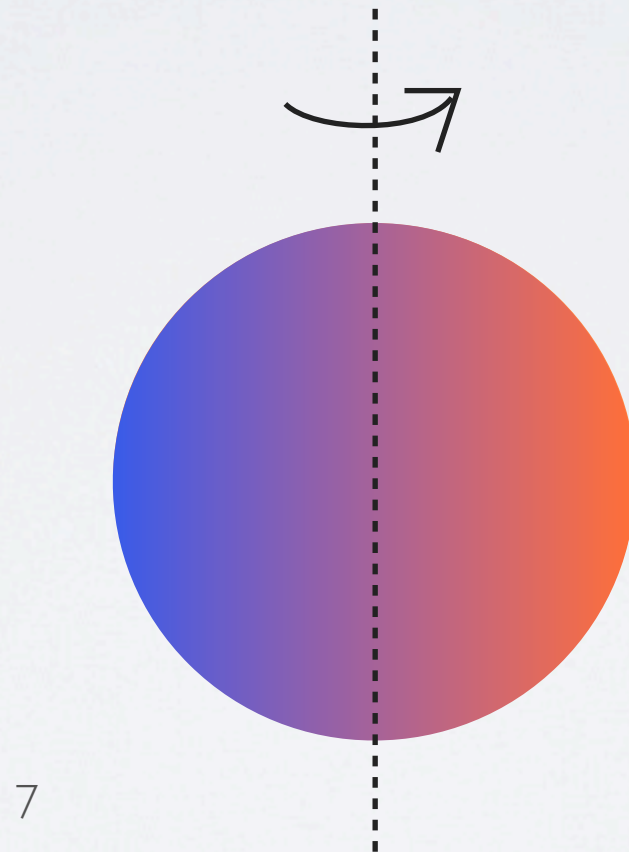


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Doppler effect

OBSERVATION IN HAWAII



MAUNA KEA OBSERVATORIES



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OBSERVATION STREAM

Japan

proposal

▶ explain the importance of the observation

OBSERVATION STREAM

Japan

proposal

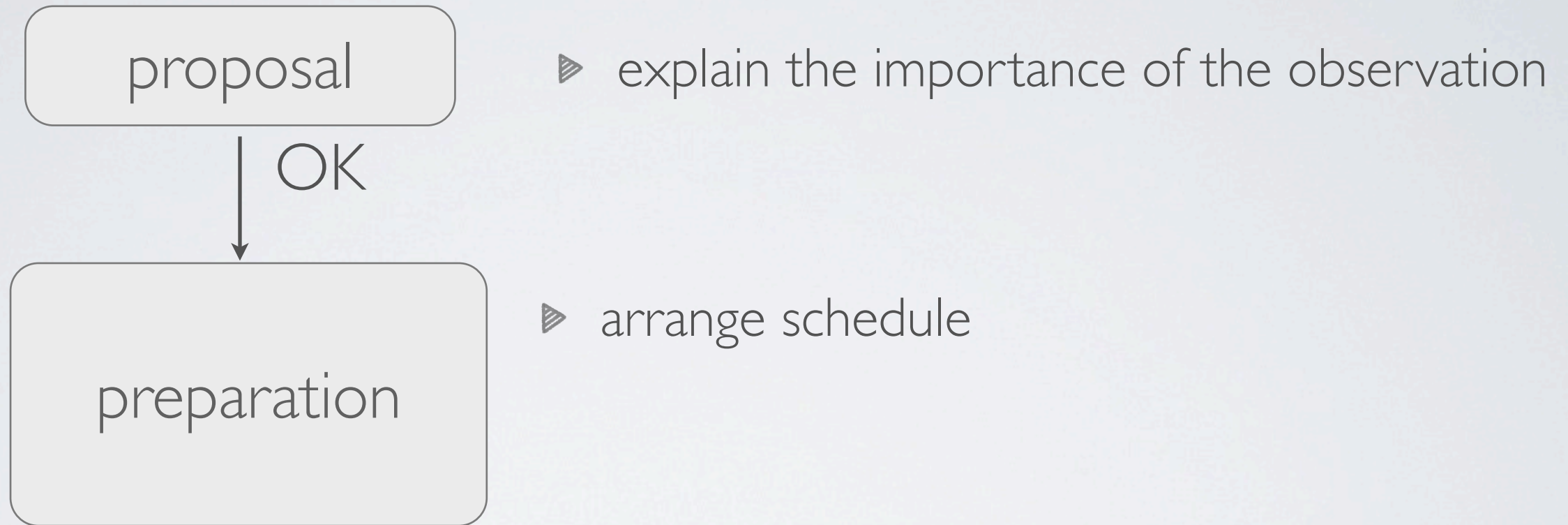


OK

► explain the importance of the observation

OBSERVATION STREAM

Japan



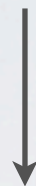
OBSERVATION STREAM

Japan

proposal

- ▶ explain the importance of the observation

OK



preparation

- ▶ arrange schedule

Hawaii

- ▶ get accustomed to the **thin air**

OBSERVATION STREAM

Japan

proposal

- ▶ explain the importance of the observation

OK

preparation

- ▶ arrange schedule

Hawaii

- ▶ get accustomed to the **thin air**

observation

- ▶ cooperate **with operator**
- ▶ be **flexible** according to the weather

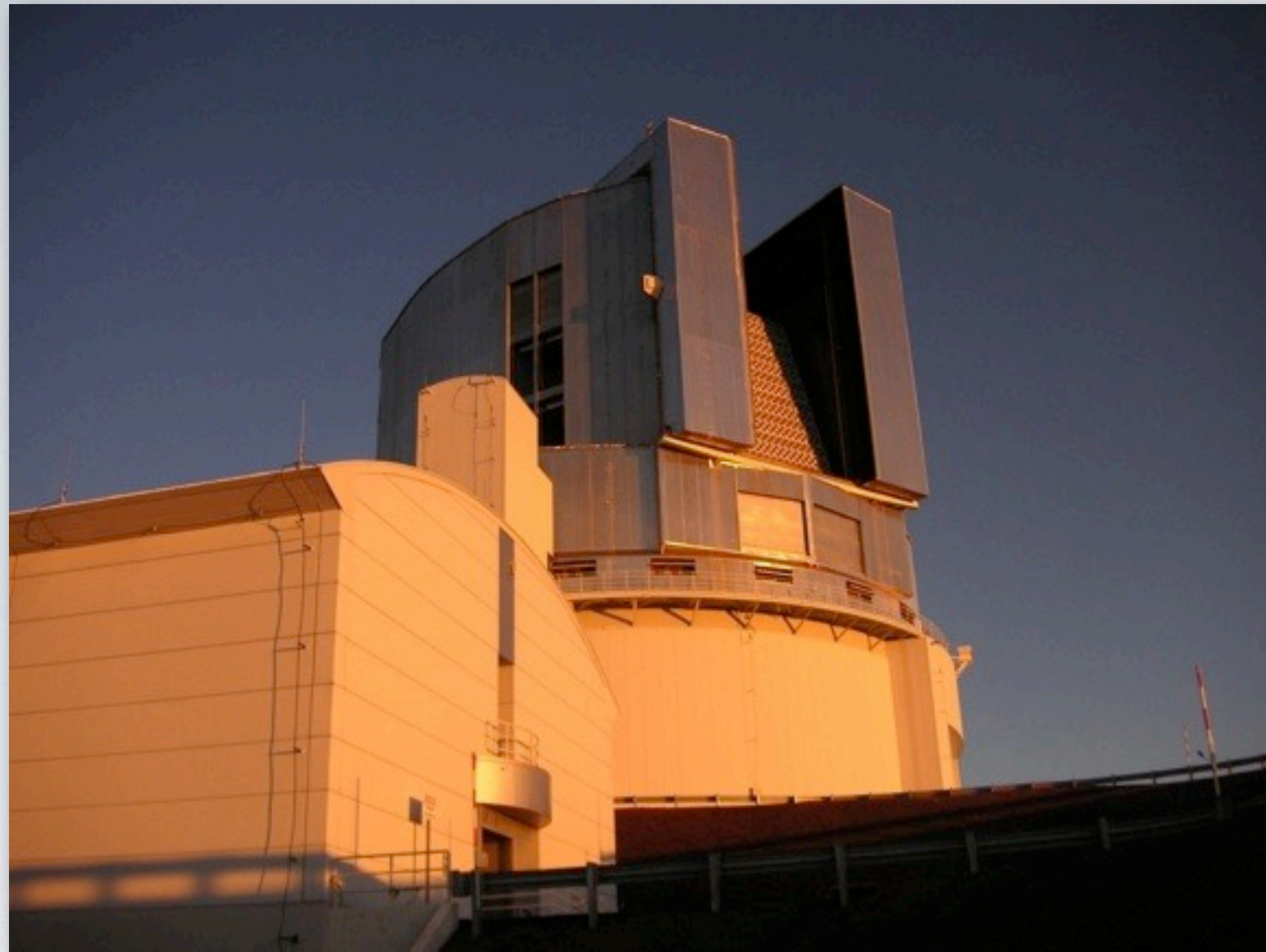
HALE POHAKU



eating room



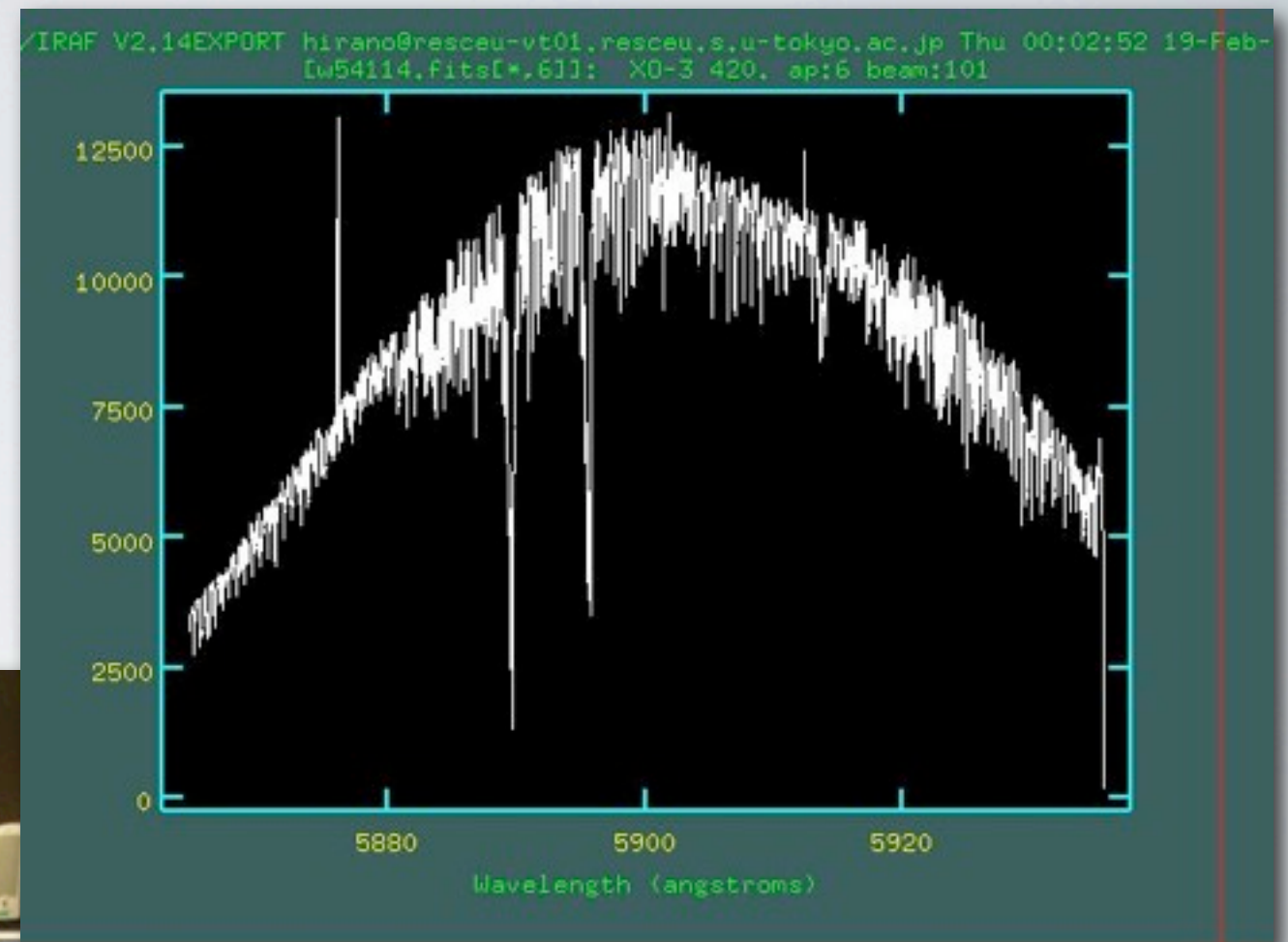
lodges



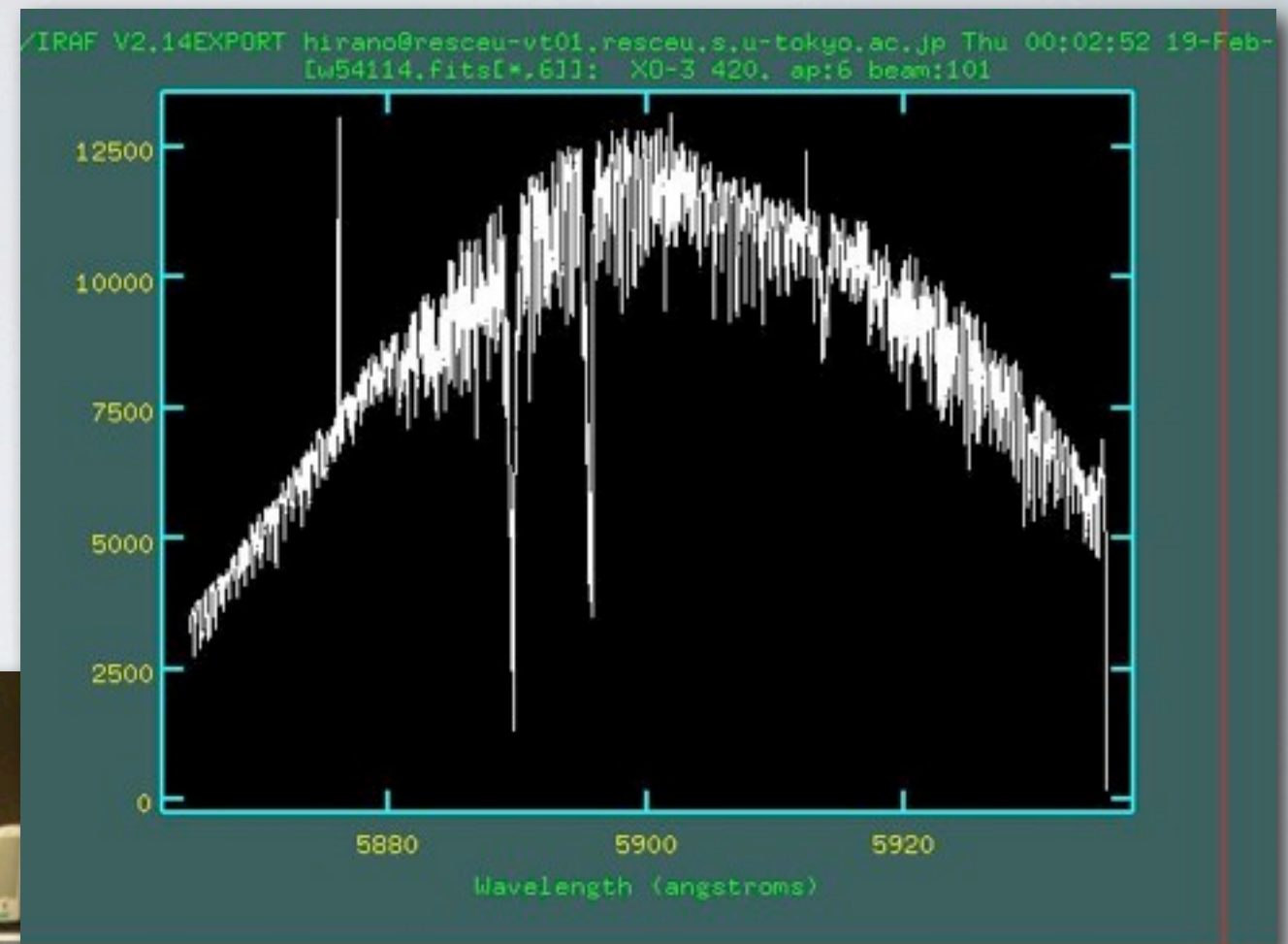
SUBARU TELESCOPE



OBSERVATION



OBSERVATION



PHOTOS



