



ITN 215212: Black Hole Universe



# How to give a good talk

Tomaso Belloni (INAF-OAB)



# Outline

- General principles
- The slides
- The presentation

# General principles

- Amount of material and # of slides
- Target audience
- Focus on main aim
- “Begin at the beginning and go on till you come to the end: then stop.”
- Slides are not your notes

# The slides

- Careful with technology
- Slide background
- Colors. Highlights. Color-blindness
- Fonts
- Animations
- Crowded slides

# The slides (II)

- Slide transitions
- Avoid the
- Effect of slide transition on viewers
- Avoid the borders
- Top is good, bottom is bad
- Projectors: distorted, overexposed, light

# The slides (II)

- Slide transitions
- Avoid the “strip tease effect”
- Effect of slide transition on viewers
- Avoid the borders
- Top is good, bottom is bad
- Projectors: distorted, overexposed, light

Let's try it again



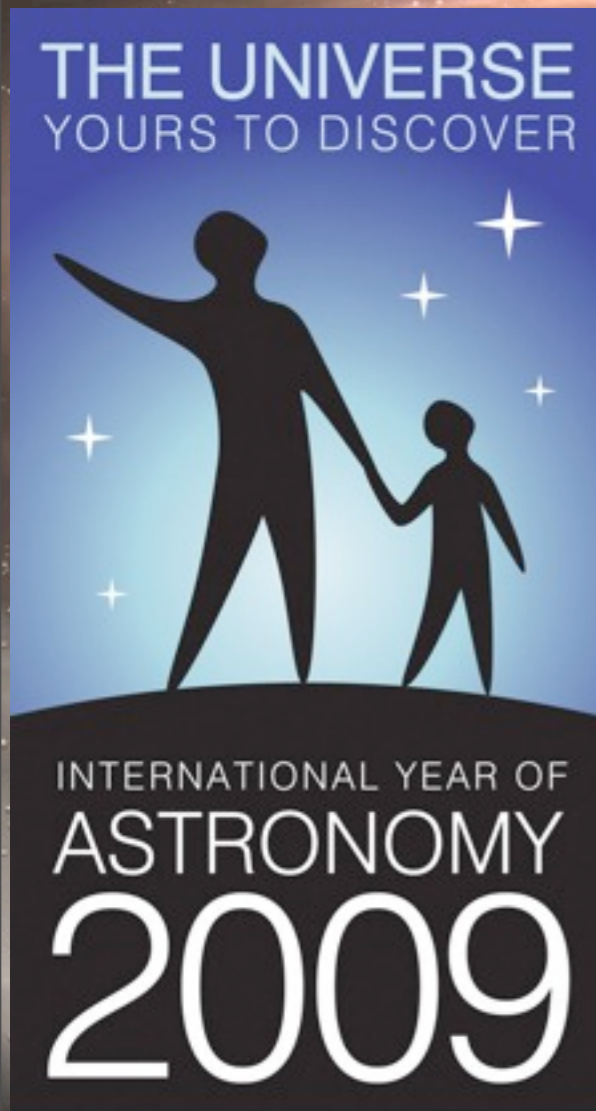
ITN 215212: Black Hole Universe



# How to give a **bad** talk

Tomaso Belloni (INAF-OAB)

*2009 July 9th*



Thierry Lombry



# The slides

- Careful with technology
- Slide background
- Colors. Highlights. Color-blindness
- Fonts
- Crowded slides (world record)

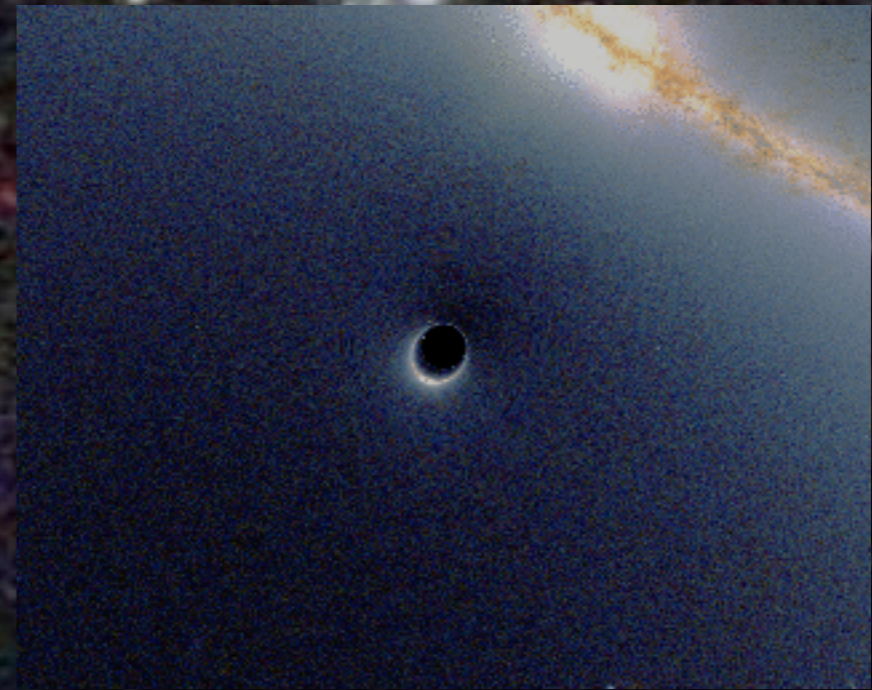
# The slides

- Careful with technology
- Slide background
- Colors. Highlights. Color-blindness
- Fonts
- Crowded slides (world record)

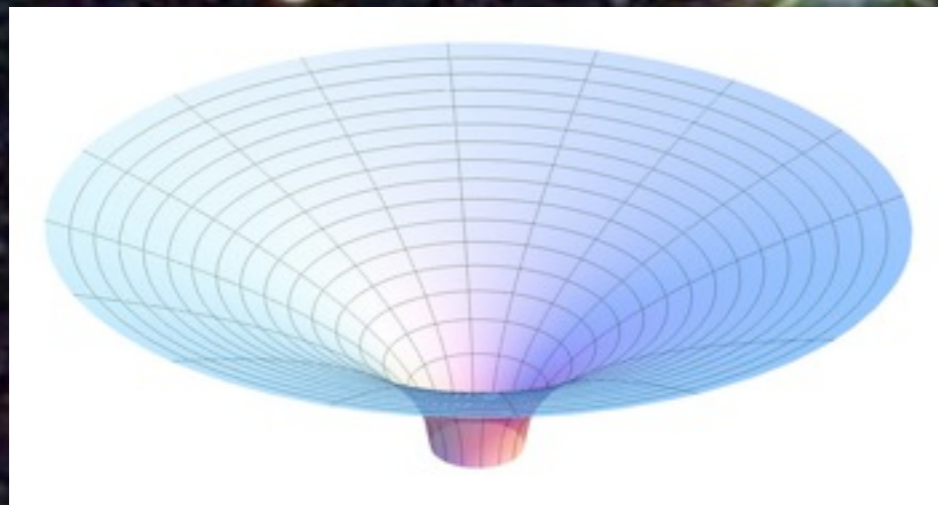
# The slides

- Careful with technology
- Slide background
- Colors. Highlights. Color-blindness
- Fonts
- Animations
- Crowded slides (world record)

In general relativity, a black hole is a region of space in which the gravitational field is so powerful that nothing, including light, can escape its pull. The black hole has a one-way surface, called an event horizon, into which objects can fall, but out of which nothing can come. It is called "black" because it absorbs all the light that hits it, reflecting nothing, just like a perfect blackbody in thermodynamics. Quantum analysis of black holes shows them to possess a temperature and Hawking radiation. Despite its invisible interior, a black hole can reveal its presence through interaction with other matter. A black hole can be inferred by tracking the movement of a group of stars that orbit a region in space which looks empty. Alternatively, one can see gas falling into a relatively small black hole, from a companion star. This gas spirals inward, heating up to very high temperature and emitting large amounts of radiation that can be detected from earthbound and earth-orbiting telescopes. Such observations have resulted in the scientific consensus that, barring a breakdown in our understanding of nature, black holes do exist in our universe.



do exist in our universe.  
first, predicting a phenomenon in our understanding of nature, black  
telescopes, such observations have resulted in the scientific con-  
of radiation that can be detected from earthbound and earth-orbiting

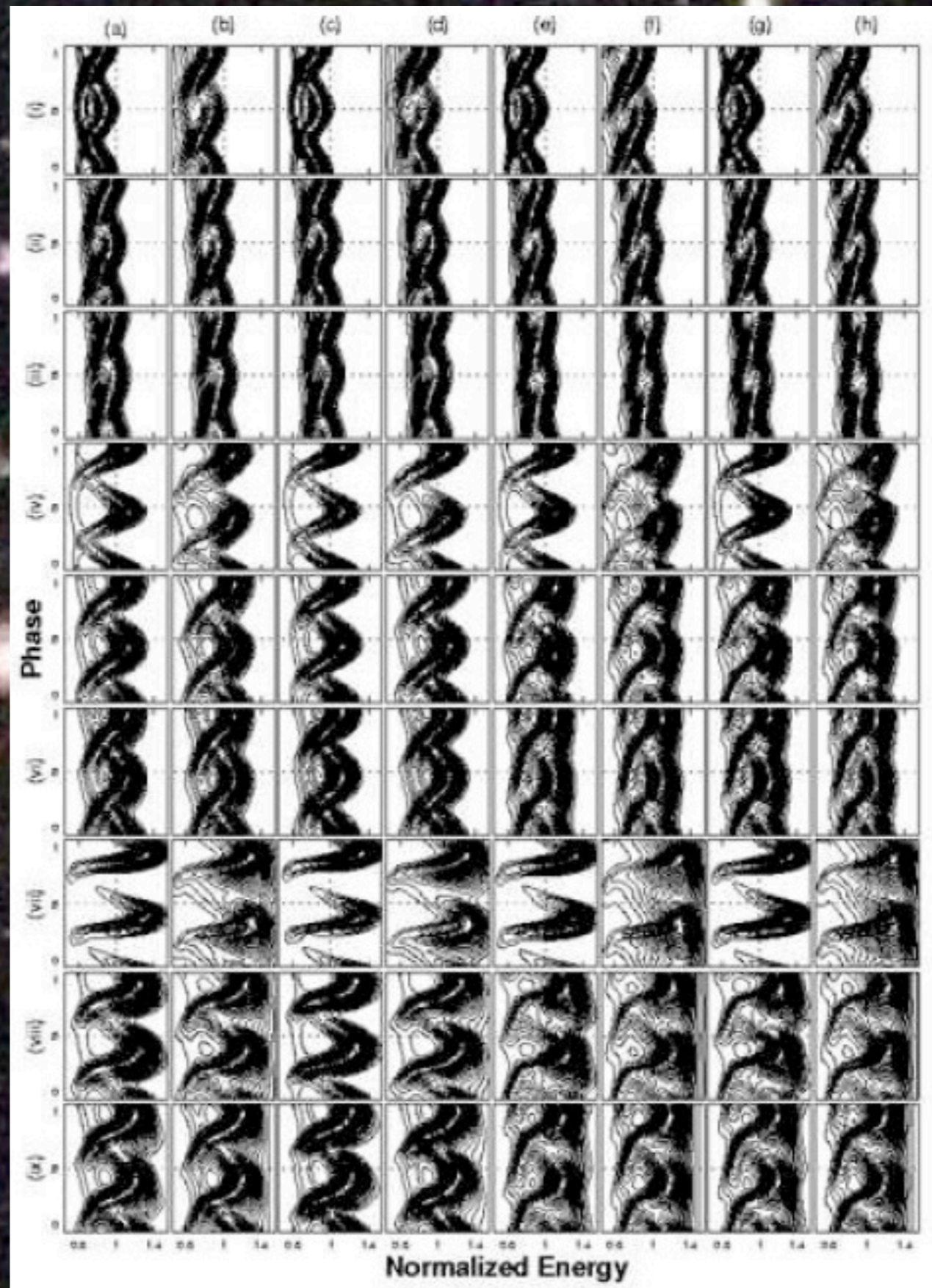


In Einstein's theory of general relativity, the Schwarzschild solution (or the Schwarzschild vacuum) describes the gravitational field outside a spherical, non-rotating mass such as a (non-rotating) star, planet, or black hole. It is also a good approximation to the gravitational field of a slowly rotating body like the Earth or Sun. The cosmological constant is assumed to equal zero.

According to Birkhoff's theorem, the Schwarzschild solution is the most general spherically symmetric, vacuum solution of the Einstein field equations. A Schwarzschild black hole or static black hole is a black hole that has no charge or angular momentum. A Schwarzschild black hole has a Schwarzschild metric, and cannot be distinguished from any other Schwarzschild black hole except by its mass.

Schwarzschild black hole except by its mass.  
metric, and cannot be distinguished from any other

Aliquam et nisl vel ligula  
consectetur suscipit. Morbi  
euismod enim eget neque. Donec  
sagittis massa. Vestibulum quis augue  
sit amet ipsum laoreet pretium.  
Nulla facilisi. Duis tincidunt, felis et  
luctus placerat, ipsum libero  
vestibulum sem, vitae elementum  
wisi ipsum a **metus**. Nulla a enim  
sed dui hendrerit lobortis. Donec  
lacinia vulputate magna. Vivamus  
suscipit lectus at quam. In lectus  
est, viverra a, ultricies ut, pulvinar  
vitae, tellus. Donec et lectus et sem  
rutrum sodales. Morbi cursus.  
Aliquam a **odio**. Sed tortor velit,  
convallis eget, porta interdum,  
convallis sed, tortor. Phasellus ac  
libero a lorem auctor mattis. Lorem  
ipsum dolor sit amet, consectetur  
adipiscing elit.



# The slides (II)

- Slide transitions
- Avoid the
- Effect of slide transition on viewers
- Avoid the borders
- Top is good, bottom is bad
- Projectors: distorted, overexposed, light

Remember in particular this sentence

# The slides (II)

- Slide transitions
- Avoid the “strip tease effect”
- Effect of slide transition on viewers
- Avoid the borders
- Top is good, bottom is bad
- Projectors: distorted, overexposed, light

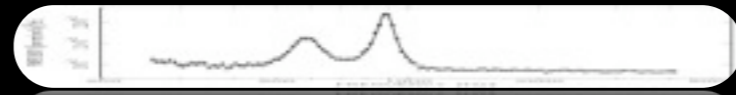
Remember in particular this sentence

# The presentation

- Movement, position
- Triangle, side
- Tone of voice
- Pointer (DT, weather)
- Keep notes and time (do not trust chair)



# The presentation



- Movement, position
- Triangle, side
- Tone of voice
- Pointer (DT, weather)
- Keep notes and time (do not trust chair)

