This is the title of my talk.

And the subtitle of my talk.

My Full Name

The Name Of My Research Group
The Place Where I Work

Where I'm Speaking, When I'm Speaking

arXiv:xxxx.xxxx
arXiv:yyyy.yyyy
arXiv:zzzz.zzzz

This sample presentation uses lots of different colors and background gradients. The point is to show what is possible. Be conservative with your choices. Use patterns sparingly, and use color when it emphasizes or clarifies what you are trying to explain.

Outline

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Why Am I Here?

(And why should you care?)

I am here giving a talk, so I must have something important to say. Let me try to convince you of this by providing a list of reasons. They will appear one at a time.

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- First Reason.
- Second Reason.
- Third Reason.

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This is in a red box, so people will assume that it is important!

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1. Point One.
2. Point Two.

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1. Point One.
2. Point Two.
3. Point Three.

The Semiclassical Limit

Consider the Euclidean path integral

$$\mathcal{Z} = \int \mathscr{D}g\mathscr{D}X \, \exp\left(-\frac{1}{\hbar} I_E[g, X]\right) \ .$$

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- The ensemble depends on the boundary conditions.

Saddle-point Approximation

A small perturbation around a classical solution

$$I_E[g_{cl} + \delta g, X_{cl} + \delta X] = I_E[g_{cl}, X_{cl}] + \delta I_E[g_{cl}, X_{cl}; \delta g, \delta X] + \frac{1}{2}\,\delta^2 I_E[g_{cl}, X_{cl}; \delta g, \delta X] + \dots$$

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$$\mathcal{Z} \sim \exp\left(-\frac{1}{\hbar}\, I_E[g_{cl}, X_{cl}]\right) \int \mathscr{D}\delta g\, \mathscr{D}\delta X \exp\left(-\frac{1}{2\hbar}\,\delta^2 I_E\right) \times \dots$$

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The semiclassical analysis is more involved than we might have guessed!

Outline

The Action

The Einstein-Hilbert action with GHY boundary term

$$I_E = -\frac{1}{16\pi G}\int_{\mathcal{M}} d^{n+1}x\sqrt{g}\,(R-2\Lambda) - \frac{1}{8\pi G}\int_{\partial\mathcal{M}} d^{n}x\sqrt{\gamma}\,K$$

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- Newton's constant
- The Ricci scalar
- The Cosmological constant
- The Extrinsic Curvature

Outline

Now I will conclude my talk.

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- Closing Point One

Now I will conclude my talk.

- Closing Point One
- Closing Point Two

Now I will conclude my talk.

- Closing Point One
- Closing Point Two
- Closing Point Three

Now I will conclude my talk.

- Closing Point One
- Closing Point Two
- Closing Point Three
- Much more . . .

Now I will conclude my talk.

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Next Stage

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- Closing Point One
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- Future plans one

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I have taught you many important things!

The next three sections explain some of the custom commands, like colored boxes and background gradients.

Outline

Equation Boxes

This is an 'equation box'. You can put anything inside it. For instance, here are some equations:

$$\alpha = \beta + \gamma$$
$$\delta = \epsilon + \eta$$

Here is another example.

You can control the width of this box. It does **not** auto-adjust.

$$\alpha = \beta + \gamma$$
$$\delta = \epsilon + \eta$$

The 'Equation Box' Command

The equation box macro takes two arguments

```
\eqnbox{<width>}{<content>}
```

Some important points:

1. You **must** specify the width of the box 'by hand'. This is the first argument given to the macro.
2. You can use any environment inside an equation box. This is the second argument given to the macro. It is executed inside a minipage which is then drawn inside the colored box.
3. The colors used by `\eqnbox` are fixed. If you want different colors use the `\custombox` command.

Title Boxes

A Title

This is a 'title box'. It is like an equation box, but it has a title.

$$\alpha = \beta + \gamma$$
$$\delta = \epsilon + \eta$$

A Centered Title!

This is a 'centered title box'.

$$\alpha = \beta + \gamma$$
$$\delta = \epsilon + \eta$$

The 'Title Box' Command

The title boxes macros take three arguments

```
\titlebox{<width>}{<title>}{<content>}
```

```
\ctitlebox{<width>}{<title>}{<content>}
```

Some important points:

1. The same caveats that apply to `\eqnbox` also apply here.
2. Obviously, `\ctitlebox` centers the title at the top of the box.

The Custom Box

The custom box lets you define the outer and inner colors, the width of the outer line, the inner padding, and the width of the minipage inside the box.

$$I_E = -\frac{1}{16\pi G_2}\int_{\mathcal{M}} d^2x\sqrt{g}\,\left[X\,R - U(X)\,(\nabla X)^2 - 2\,V(X)\right] - \frac{1}{8\pi G_2}\int_{\partial\mathcal{M}} dx\sqrt{\gamma}\,X\,K$$

Hello!

I'm an orange box with a red outline.

The 'Custom Box' Command

The Custom Box macro takes six arguments

```
\custombox{<outercolor>}{<linewidth>}{<innercolor>}
          {<inner padding>}{<width>}{<content>}
```

1. `outercolor` is the color used to draw the outer line.
2. `linewidth` is the width of the outer line. It must be given with units; i.e. `1pt` or `.5pt`.
3. `innercolor` is the color used to fill the box.
4. `inner padding` is the space between the edge of the box and the content. Also given with units.
5. `width` is the width of the box.
6. `content` is the content. You can place anything inside a `\custombox`.

Outline

Background Gradients

You can place a gradient in the background using the 'bggradient' command. It takes two arguments: the top color and the bottom color.

```
\bggradient{<top color>}{<bottom color>}
```

For example, this page was produced with

```
\bggradient{orange!20}{yellow!20}
```

```
\bggradient{blue!20}{red!20}
```

Notice that this slide has no footer. This is accomplished by marking the frame as ‘plain’.

`(\bggradient{blue!15}{orange!15})`

```
\bggradient{purple!15}{orange!15}
```

```
\bggradient{blue!15}{green!15}
```

```
\bggradient{green!15}{yellow!15}
```

$$I = -\frac{1}{16\pi G}\int_{\mathcal{M}} d^{n+1}x\sqrt{g}\,(R-2\Lambda) - \frac{1}{8\pi G}\int_{\partial\mathcal{M}} d^{n}x\sqrt{\gamma}\,K$$
$$-\frac{1}{8\pi G}\int_{\partial\mathcal{M}} d^{n}x\sqrt{\gamma}\left(\frac{n-1}{\ell^2}+\frac{\ell}{2(n-2)}\mathcal{R}+\ldots\right)$$

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Gradients with Three Colors

The command ‘bgggradient’ produces a background gradient with three colors. It takes three arguments: the top, middle, and bottoms colors.

```
\bggradient{<top color>}{<middle color>}{<bottom color>}
```

For example, this page was produced with

```
\bgggradient{gray3!60}{gray1!20}{gray3!60}
```

```
\bgggradient{skyblue3!40}{skyblue1!20}{skyblue3!40}
```

```
\bgggradient{skyblue3!80}{skyblue1!60}{skyblue3!80}
```

Always test your presentation on a projector, to see what the colors look like. Sometimes they appear faint compared to how they look on the screen.

Outline

Custom Colors

These are the custom colors defined in the Simple beamer style.

butter1	butter2	butter3
orange1	orange2	orange3
chocolate1	chocolate2	chocolate3
scarlet1	scarlet2	scarlet3
plum1	plum2	plum3
skyblue1	skyblue2	skyblue3
chameleon1	chameleon2	chameleon3

You can make them lighter by appending `!n` to the name, where n is a number between 0 and 100. I am using $n = 20$ here.

butter1	butter2	butter3
orange1	orange2	orange3
chocolate1	chocolate2	chocolate3
scarlet1	scarlet2	scarlet3
plum1	plum2	plum3
skyblue1	skyblue2	skyblue3
chameleon1	chameleon2	chameleon3

The custom colors were taken from the Tango Project.
http://tango.freedesktop.org/