Beamer 테마 만져보기

권현우

서강대학교 수학과

2017년 2월 11일

TEX쪽 중 갑갑한 설명서

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- expl3

TEX쪽 중 갑갑한 설명서

- expl3
- PGF/Tikz (1161페이지)

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- TEXBook

TEX쪽 중 갑갑한 설명서

- expl3
- PGF/Tikz (1161페이지)
- TEXBook
- Beamer (248페이지)

Beamer의 난해함

```
\subsection< mode specification >[ short subsection name ]
{ subsection name }

\begin{alertblock}< action specification >{ block title }
< action specification >
 environment contents
\end{alertblock}

\begin{beamercolorbox}[sep=1em,wd=5cm]{postit}
Place me somewhere!
\end{beamercolorbox}

wd,ht,left,right,center,leftskip,rightskip,
sep,colsep,shadow,rounded,ignorebg,vmode, ....
```

Beamer의 난해함

```
Runaway argument?
\let \AtEndDocument \@firstofone \@enddocumenthook
\@checkend {docume\ETC.
! File ended while scanning use of \beamer@collect@@body.
<inserted text>
                \par
<*> ./untitled-13.tex
```

Beamer의 난해함

```
\documentclass{beamer}


\begin{document}
\footnotesize
\begin{frame}{aaa}

aaaa


\end{document}
```

Beamer theme 종류

- Inner Theme
  - itemize/enumerate
  - block
- Color Theme
- Outer Theme
  - headline
  - footline

Inner Theme 설정 - items

```
\setbeamertemplate{some beamer element}{정의}

\setbeamertemplate{items}[ball]%default,circle,square
```

- Jürgen Moser
- Jean Leray
- Elias M. Stein

Inner Theme 설정 - items

```
\setbeamertemplate{items}{\color{red}*}
```

* Jürgen Moser
* Jean Leray
* Elias M. Stein

```
\setbeamertemplate{sections/subsections in toc}[square]
```

Inner Theme 설정 - enumerate

```
\defbeamertemplateparent{enumerate items}{enumerate item,enumerate subitem,
enumerate subsubitem,enumerate mini}{}

\defbeamertemplate*{enumerate item}{default}{\insertenumlabel.}
\defbeamertemplate*{enumerate subitem}{default}{\insertenumlabel.\insertsubenumlabel}
\defbeamertemplate*{enumerate subsubitem}{default}{\insertenumlabel.\insertsubenumlabel.
\insertsubsubenumlabel}
\defbeamertemplate*{enumerate mini template}{default}{\insertenumlabel}

\setbeamertemplate{itemize item}[ball]
\setbeamertemplate{enumerate item}[square]
```

- ETH Zürich
- Collège de France
- Princeton University

1. Jürgen Moser
2. Jean Leray
3. Elias M. Stein

Inner Theme 설정 - enumerate

```
\setbeamertemplate{enumerate item}
{\color{red}\insertenumlabel.}
```

1. Jürgen Moser
2. Jean Leray
3. Elias M. Stein

Hardy-Littlewood-Sobolev inequality

Theorem

If $0 < \alpha < n$ and $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, then there exists a constant C depending only on n, p, q such that

$$\|I_\alpha f\|_q \leq C\|f\|_p$$

for all $f \in \mathcal{S}$.

Inner Theme 설정 - blocks

Theorem

If $0 < \alpha < n$ and $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, then there exists a constant C depending only on n, p, q such that

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Inner Theme 설정 - blocks

block title

Theorem

If $0 < \alpha < n$ *and* $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, *then there exists a constant* C *depending only on* n, p, q *such that*

$$\|I_\alpha f\|_q \leq C\|f\|_p$$

for all $f \in \mathcal{S}$.

block body

- foreground
- background
- parent

Inner Theme 설정 - blocks

```
\setbeamercolor*{block body}{bg=lapis!10}
\setbeamercolor*{block title}{fg=white,bg=lapis}
\setbeamertemplate{blocks}[rounded][shadow=true]
```

Theorem

If $0 < \alpha < n$ *and* $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, *then there exists a constant* C *depending only on* n, p, q *such that*

$$\|I_\alpha f\|_q \leq C\|f\|_p$$

for all $f \in \mathcal{S}$.

Remark: Theorem blocks

```
\setbeamertemplate{theorems}[numbered]
%default,numbered,normal font,ams style
```

Theorem 1

If $0 < \alpha < n$ and $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, then there exists a constant C depending only on n, p, q such that

$$\|I_\alpha f\|_q \leq C\|f\|_p$$

for all $f \in \mathcal{S}$.

Remark: Theorem blocks

```
\setbeamertemplate{theorems}[normal font]
%default,numbered,normal font,ams style
```

Theorem

If $0 < \alpha < n$ and $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, then there exists a constant C depending only on n, p, q such that

$$\|I_\alpha f\|_q \leq C\|f\|_p$$

for all $f \in \mathcal{S}$.

Remark: Theorem blocks

```
\setbeamertemplate{theorems}[ams sytle]
%default,numbered,normal font,ams style
```

Theorem 1.

If $0 < \alpha < n$ and $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, then there exists a constant C depending only on n, p, q such that

$$\|I_\alpha f\|_q \leq C\|f\|_p$$

for all $f \in \mathcal{S}$.

Remark: Theorem blocks

```
\makeatletter
\def\th@mystyle{%
    \normalfont % body font
    \setbeamercolor{block title example}{fg=white,bg=lapis}
    \setbeamercolor{block body example}{bg=lapis!10,fg=black}
    \def\inserttheoremblockenv{exampleblock}
  }
\makeatother



\theoremstyle{mystyle}
\newtheroem{defn}{Definition}
```

Definition

For a locally integrable function f in $\mathbb{R}^n$, we define

$$f^*(x) = \sup \frac{1}{|Q|} \int_Q |f(y)| dy,$$

where the sup is taken over all Q with center x.

Outer Theme 설정

- infolines
- miniframes
- shadow
- sidebar
- smoothbars
- smoothtree
- tree

Infolines

Theorem

If $0 < \alpha < n$ *and* $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, *then there exists a constant* C *depending only on* n, p, q *such that*

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for all $f \in \mathcal{S}$.

Miniframes

Theorem

If $0 < \alpha < n$ and $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, then there exists a constant C depending only on n, p, q such that

$$\|I_\alpha f\|_q \leq C\|f\|_p$$

for all $f \in \mathcal{S}$.

Shadow

Theorem

If $0 < \alpha < n$ and $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, then there exists a constant C depending only on n, p, q such that

$$\|I_\alpha f\|_q \leq C\|f\|_p$$

for all $f \in \mathcal{S}$.

Sidebar

Theorem

If $0 < \alpha < n$ *and* $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, *then there exists a constant* C *depending only on* n, p, q *such that*

$$\|I_\alpha f\|_q \leq C\|f\|_p$$

for all $f \in \mathcal{S}$.

Smoothbars

Theorem

If $0 < \alpha < n$ *and* $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, *then there exists a constant* C *depending only on* n, p, q *such that*

$$\|I_\alpha f\|_q \leq C\|f\|_p$$

for all $f \in \mathcal{S}$.

Smoothtree

Theorem

If $0 < \alpha < n$ *and* $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, *then there exists a constant* C *depending only on* n, p, q *such that*

$$\|I_\alpha f\|_q \leq C\|f\|_p$$

for all $f \in \mathcal{S}$.

Tree

Theorem

If $0 < \alpha < n$ *and* $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, *then there exists a constant* C *depending only on* n, p, q *such that*

$$\|I_\alpha f\|_q \leq C\|f\|_p$$

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기본적으로 열어보셔야 할 파일

- beamerouterthemedefault.sty

```
\defbeamertemplate*{frametitle}{default}[1][left]
{
  \ifbeamercolorempty[bg]{frametitle}{}{\nointerlineskip}%
  \@tempdima=\textwidth%
  \advance\@tempdima by\beamer@leftmargin%
  \advance\@tempdima by\beamer@rightmargin%
  \begin{beamercolorbox}[sep=0.3cm,#1,wd=\the\@tempdima]{frametitle}
    \usebeamerfont{frametitle}%
    \vbox{}\vskip-1ex%
    \if@tempswa\else\csname beamer@fte#1\endcsname\fi%
    \strut\insertframetitle\strut\par%
    {%
      \ifx\insertframesubtitle\@empty%
      \else%
      {\usebeamerfont{framesubtitle}\usebeamercolor[fg]{framesubtitle}\
      \fi
    }%
    \vskip-1ex%
    \if@tempswa\else\vskip-.3cm\fi% set inside beamercolorbox... evil h
  \end{beamercolorbox}%
```

Outer Theme 설정: 예시 (Infolines)

```
\definecolor{lapis}{cmyk}{1,0.78,0.18,0.04}

\setbeamercolor{structure}{fg=lapis}

\setbeamercolor*{palette primary}{use=structure,fg=white,
bg=structure.fg}
\setbeamercolor*{palette secondary}{use=structure,fg=white,
bg=structure.fg!75!black}
\setbeamercolor*{palette tertiary}{use=structure,fg=white,
bg=structure.fg!50!black}
\setbeamercolor*{palette quaternary}{fg=white,bg=black}

\setbeamercolor*{titlelike}{parent=palette primary}
```

Hardy-Littlewood-Sobolev inequality

Theorem

If $0 < \alpha < n$ and $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, then there exists a constant C depending only on n, p, q such that

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Outer Theme 설정: 예시 (Infolines)

```
\setbeamersize{text margin left=2em,text margin right=2em}
```

Hardy-Littlewood-Sobolev inequality

Theorem

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```
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```

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Outer Theme 설정: 예시 (Infolines)

```
\defbeamertemplate*{footline}{infolines theme}
{
  \leavevmode%
  \hbox{%
  \begin{beamercolorbox}[wd=.333333\paperwidth,ht=2.25ex,dp=1ex
  ,center]{author in head/foot}%
    \usebeamerfont{author in head/foot}\insertshortauthor\expandafter
    \beamer@ifempty\expandafter{\beamer@shortinstitute}{}{~~(\insertsho
  \end{beamercolorbox}%
  \begin{beamercolorbox}[wd=.333333\paperwidth,ht=2.25ex,dp=1ex,center]
  {title in head/foot}%
    \usebeamerfont{title in head/foot}\insertshorttitle
  \end{beamercolorbox}%
  \begin{beamercolorbox}[wd=.333333\paperwidth,ht=2.25ex,dp=1ex,right]
  {date in head/foot}%
    \usebeamerfont{date in head/foot}\insertshortdate{}\hspace*{2em}
    \insertframenumber{} / \inserttotalframenumber\hspace*{2ex}
  \end{beamercolorbox}}%
  \vskip0pt%
}
```

Hardy-Littlewood-Sobolev inequality

Theorem

If $0 < \alpha < n$ *and* $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, *then there exists a constant* C *depending only on* n, p, q *such that*

$$\|I_\alpha f\|_q \leq C\|f\|_p$$

for all $f \in \mathcal{S}$.

Outer Theme 설정: 예시 (Infolines)

```
\defbeamertemplate*{headline}{infolines theme}
{
  \leavevmode%
  \hbox{%
  \begin{beamercolorbox}[wd=.5\paperwidth,ht=2.65ex,dp=1.5ex,right]
  {section in head/foot}%
    \usebeamerfont{section in head/foot}\insertsectionhead\hspace*{2ex}
  \end{beamercolorbox}%
  \begin{beamercolorbox}[wd=.5\paperwidth,ht=2.65ex,dp=1.5ex,left]
  {subsection in head/foot}%
    \usebeamerfont{subsection in head/foot}\hspace*{2ex}
    \insertsubsectionhead
  \end{beamercolorbox}}%
  \vskip0pt%
}
```

Hardy-Littlewood-Sobolev inequality

Theorem

If $0 < \alpha < n$ *and* $\frac{1}{p} - \frac{1}{q} = \frac{\alpha}{n}$, *then there exists a constant* C *depending only on* n, p, q *such that*

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for all $f \in \mathcal{S}$.

근데... 굳이 이렇게 까지 하고 싶으신가요...

```
\defbeamertemplate*{background canvas}{my}{%
\ifx\BackgroundImage\empty\else
\includegraphics[width=\paperwidth,height=\paperheight]
{\BackgroundImage}%
\fi}
\newcommand*{\ResetBackground}[1][]
{\def\BackgroundImage{#1}}
\ResetBackground
```

*조진환, Beamer를 이용한 동영상 촬영용 강의자료 작성 요령

감사합니다