hsrstud — HSR-Stud Style and Macros[*]

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1 Package Options

arrowvec Tells the package to use a vector notation with a small arrow over the variables, like handwriting.

textvecdiff Disables the "Nabla" or "Del" notation for vector derivatives. Instead the symbols $\nabla, \nabla\cdot, \nabla\times, \nabla^2$ are be replaced with grad, div, curl and div grad.

```
1 \newif\if@arrowvec\@arrowvecfalse
2 \DeclareOption{arrowvec}{\@arrowvectrue}
3
4 \newif\if@textvecdiff\@textvecdifffalse
5 \DeclareOption{textvecdiff}{\@textvecdifftrue}
6
7 \ProcessOptions\relax
```

2 Mathematics

2.1 Formatting

\vec Vectors notation. If the option `arrowvec` described in §1 is enabled, the notation with a small arrow over the varible will be used, else the vector is bold. Takes one option {⟨*letter*⟩}.

```
 8 \if@arrowvec
 9 \else
10 \renewcommand{\vec}[1]{\bm{#1}}
11 \fi
```

\mtx Matrix notation. Takes {⟨*letter*⟩}.

```
12 \newcommand{\mtx}[1]{\mathrm{#1}}
```

\ten Tensor notation. Takes {⟨*letter*⟩}.

```
13 \newcommand{\ten}[1]{\underline{#1}}
```

2.2 Equalities

\heq L'Hôpital limit equality symbol.

```
14 \newcommand{\heq}{\stackrel{\hat{\texttt{H}}}{=}}
```

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[*]This file describes version v0.1, last revised 2020/04/16.

2.3 Derivatives

\dd The differential element. It needs a {⟨*var*⟩} and has the optional argument [⟨*exponent*⟩].

```
15 \newcommand{\dd}[2][]{\mathrm{d}^{#1} #2}
```

\di This is the same as **\dd** but with a small space before in front, it is intended to be used in integrals for a nicer typesetting.

```
16 \newcommand{\di}[2][]{\,\dd[#1]{#2}}
```

\deriv The derivative has arguments {⟨*function*⟩}, {⟨*var*⟩} and the optional argument [⟨*order*⟩].

```
17 \newcommand{\deriv}[3][]{\frac{\dd[#1]{#2}}{\dd[]{#3^{#1}}}}
```

\pderiv The partial derivative has arguments {⟨*function*⟩}, {⟨*var*⟩} and the optional argument [⟨*order*⟩].

```
18 \newcommand{\pderiv}[3][]{\frac{\partial^{#1} #2}{\partial^{#1} #3}}
```

\grad The gradient operator.

```
19 \if@textvecdiff
20     \newcommand{\grad}{\text{grad }}
21 \else
22     \newcommand{\grad}{\nabla}%
23 \fi
```

\div The divergence operator, **\div** is renamed to **\divsymb**.

```
24 \let\divsymb=\div
25 \if@textvecdiff
26     \renewcommand{\div}{\text{div}}
27 \else
28     \renewcommand{\div}{\nabla\cdot}
29 \fi
```

\curl The curl operator.

```
30 \if@textvecdiff
31     \newcommand{\curl}{\text{curl }}
32 \else
33     \newcommand{\curl}{\nabla\times}
34 \fi
```

\laplace The laplace operator.

```
35 \if@textvecdiff
36     \newcommand{\laplace}{\text{div grad}}
37 \else
38     \newcommand{\laplace}{\nabla^2}
39 \fi
```

3 Colors

```
40 \definecolor{hsr-blue}{HTML}{0065A3}
41 \definecolor{hsr-blue80}{HTML}{3384B5}
42 \definecolor{hsr-blue60}{HTML}{66A3C8}
```

```
43 \definecolor{hsr-blue40}{HTML}{99C1DA}
44 \definecolor{hsr-blue20}{HTML}{CCE0ED}
45
46 \definecolor{hsr-mauve}{HTML}{6E1C50}
47 \definecolor{hsr-mauve80}{HTML}{8B4973}
48 \definecolor{hsr-mauve60}{HTML}{A87796}
49 \definecolor{hsr-mauve40}{HTML}{C5A4B9}
50 \definecolor{hsr-mauve20}{HTML}{E2D2DC}
51
52 \definecolor{hsr-lakegreen}{HTML}{548C86}
53 \definecolor{hsr-lakegreen80}{HTML}{76A39E}
54 \definecolor{hsr-lakegreen60}{HTML}{98BAB6}
55 \definecolor{hsr-lakegreen40}{HTML}{BBD1CF}
56 \definecolor{hsr-lakegreen20}{HTML}{DDE8E7}
57
58 \definecolor{hsr-reed}{HTML}{7B6951}
59 \definecolor{hsr-reed80}{HTML}{958774}
60 \definecolor{hsr-reed60}{HTML}{B0A597}
61 \definecolor{hsr-reed40}{HTML}{CAC3B9}
62 \definecolor{hsr-reed20}{HTML}{E5E1DC}
63
64 \definecolor{hsr-petrol}{HTML}{00738D}
65 \definecolor{hsr-petrol80}{HTML}{338FA4}
66 \definecolor{hsr-petrol60}{HTML}{66ABBB}
67 \definecolor{hsr-petrol40}{HTML}{99C7D1}
68 \definecolor{hsr-petrol20}{HTML}{CCE3E8}
69
70 \definecolor{hsr-basswood}{HTML}{BABD5D}
71 \definecolor{hsr-basswood80}{HTML}{C8CA7D}
72 \definecolor{hsr-basswood60}{HTML}{D6D79E}
73 \definecolor{hsr-basswood40}{HTML}{E3E5BE}
74 \definecolor{hsr-basswood20}{HTML}{F1F2DF}
75
76 \definecolor{hsr-lightgrey}{HTML}{C6C7C8}
77 \definecolor{hsr-lightgrey80}{HTML}{D1D2D3}
78 \definecolor{hsr-lightgrey60}{HTML}{DDDDDE}
79 \definecolor{hsr-lightgrey40}{HTML}{E8E8E9}
80 \definecolor{hsr-lightgrey20}{HTML}{F4F4F4}
81
82 \definecolor{hsr-black}{HTML}{1A171B}
83 \definecolor{hsr-black80}{HTML}{484549}
84 \definecolor{hsr-black60}{HTML}{767476}
85 \definecolor{hsr-black40}{HTML}{A4A2A4}
86 \definecolor{hsr-black20}{HTML}{D1D1D1}
```