# `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, as it were handwritten.

**`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.

```
\newif\if@arrowvec\@arrowvecfalse
\DeclareOption{arrowvec}{\@arrowvectrue}

\newif\if@textvecdiff\@textvecdifffalse
\DeclareOption{textvecdiff}{\@textvecdifftrue}

\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*⟩`}`.

$$\mathbf{F} = m\mathbf{a}$$

```
\if@arrowvec
\else
\renewcommand{\vec}[1]{\mathbf{\boldsymbol#1}}
\fi
```

`\uvec` Unit vector notation. Takes `{`⟨*letter*⟩`}`.

```
\newcommand{\uvec}[1]{\mathrm{\hat{#1}}}
```

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

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

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

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

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

## 2.2 Equalities

`\heq` L'Hôpital limit equality symbol.

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

## 2.3 Derivatives

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

```
\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.

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

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

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

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

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

`\grad` The gradient operator.

```
\if@textvecdiff
    \newcommand{\grad}{\text{grad }}
\else
    \newcommand{\grad}{\nabla}%
\fi
```

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

```
\let\divsymb=\div
\if@textvecdiff
    \renewcommand{\div}{\text{div}}
\else
    \renewcommand{\div}{\nabla\cdot}
\fi
```

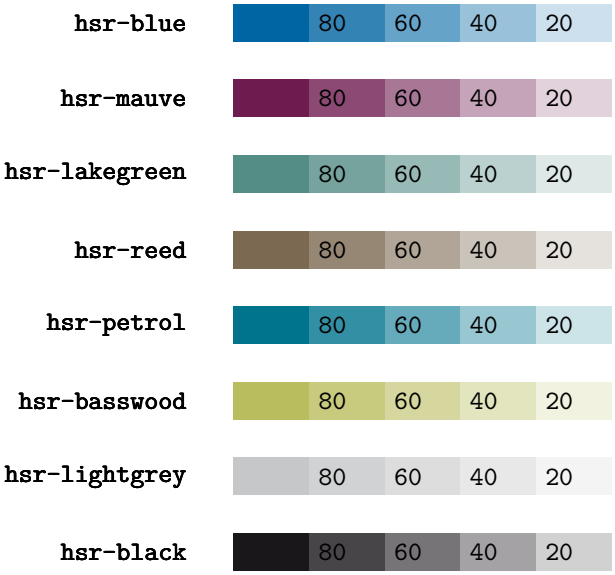
`\curl` The curl operator.

```
\if@textvecdiff
    \newcommand{\curl}{\text{curl }}
\else
    \newcommand{\curl}{\nabla\times}
\fi
```

`\laplace` The laplace operator.

```
\if@textvecdiff
    \newcommand{\laplace}{\text{div grad}}
\else
    \newcommand{\laplace}{\nabla^2}
\fi
```

# 3 Colors




```
\definecolor{hsr-blue}{HTML}{0065A3}
\definecolor{hsr-blue80}{HTML}{3384B5}
\definecolor{hsr-blue60}{HTML}{66A3C8}
\definecolor{hsr-blue40}{HTML}{99C1DA}
\definecolor{hsr-blue20}{HTML}{CCE0ED}

\definecolor{hsr-mauve}{HTML}{6E1C50}
\definecolor{hsr-mauve80}{HTML}{8B4973}
\definecolor{hsr-mauve60}{HTML}{A87796}
\definecolor{hsr-mauve40}{HTML}{C5A4B9}
\definecolor{hsr-mauve20}{HTML}{E2D2DC}

\definecolor{hsr-lakegreen}{HTML}{548C86}
\definecolor{hsr-lakegreen80}{HTML}{76A39E}
\definecolor{hsr-lakegreen60}{HTML}{98BAB6}
\definecolor{hsr-lakegreen40}{HTML}{BBD1CF}
\definecolor{hsr-lakegreen20}{HTML}{DDE8E7}

\definecolor{hsr-reed}{HTML}{7B6951}
\definecolor{hsr-reed80}{HTML}{958774}
\definecolor{hsr-reed60}{HTML}{B0A597}
\definecolor{hsr-reed40}{HTML}{CAC3B9}
\definecolor{hsr-reed20}{HTML}{E5E1DC}

\definecolor{hsr-petrol}{HTML}{00738D}
\definecolor{hsr-petrol80}{HTML}{338FA4}
\definecolor{hsr-petrol60}{HTML}{66ABBB}
\definecolor{hsr-petrol40}{HTML}{99C7D1}
\definecolor{hsr-petrol20}{HTML}{CCE3E8}

\definecolor{hsr-basswood}{HTML}{BABD5D}
\definecolor{hsr-basswood80}{HTML}{C8CA7D}
```

```
\definecolor{hsr-basswood60}{HTML}{D6D79E}
\definecolor{hsr-basswood40}{HTML}{E3E5BE}
\definecolor{hsr-basswood20}{HTML}{F1F2DF}

\definecolor{hsr-lightgrey}{HTML}{C6C7C8}
\definecolor{hsr-lightgrey80}{HTML}{D1D2D3}
\definecolor{hsr-lightgrey60}{HTML}{DDDDDE}
\definecolor{hsr-lightgrey40}{HTML}{E8E8E9}
\definecolor{hsr-lightgrey20}{HTML}{F4F4F4}

\definecolor{hsr-black}{HTML}{1A171B}
\definecolor{hsr-black80}{HTML}{484549}
\definecolor{hsr-black60}{HTML}{767476}
\definecolor{hsr-black40}{HTML}{A4A2A4}
\definecolor{hsr-black20}{HTML}{D1D1D1}
```

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