0.MARKDOWN_TEMPLATE

- **0.MARKDOWN_TEMPLATE**
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色

Red

```
<font color="red">Red</font>
```

blue

```
<font color="blue">blue</font>
```

green

```
<font color="green">green</font>
```

darkPink

```
<font color="darpink">darkPink</font>
```

数式

ギリシャ文字

α: \alpha

ϵ: \epsilon

分数

$$\frac{A}{B}$$

```
\begin{eqnarray}
\frac{A}{B}
\end{eqnarray}
```

微分

$$\frac{\partial y}{\partial x}$$

```
\begin{eqnarray}
\frac{\partial y}{\partial x}
\end{eqnarray}
```

$$\frac{dy}{dx}$$

```
\begin{eqnarray}
\frac{d y}{d x}
\end{eqnarray}
```

積分

$$\overline{A} := \frac{1}{L}\int_0^L Adx$$

```
\begin{eqnarray}
\overline{A}:=\frac{1}{L}\int_0^L Adx
\end{eqnarray}
```

$$\mathrm{IVT} := \int_{p_s}^{100hPa} uq_v \, dp \tag{1}$$

```
\begin{eqnarray}
\text{IVT}:=\int_{p_s}^{100 hPa} u q_v \,dp
\end{eqnarray}
\tag{1}
```

アンダーブレース

$$\underbrace{A}_{実際の値}=\underbrace{\overline{A}}_{平均}+\underbrace{A'}_{偏差}$$

```
\begin{eqnarray}
\underbrace{A}_{実際の値}=\underbrace{\overline{A}}_{平均}+\underbrace{A'}_{偏差}
\end{eqnarray}
```

行列

$$\begin{pmatrix}
a & b \\
c & d \\
\end{pmatrix}$$

```
\begin{pmatrix}
a & b \\
c & d \\
\end{pmatrix}
```

$$A=
\begin{bmatrix}
a_{11} & a_{12} & \cdots & a_{1n} \\
a_{21} & a_{22} & \cdots & a_{2n} \\
\vdots & \vdots & & \vdots \\
a_{m1} & a_{m2} & \cdots & a_{mn} \\
\end{bmatrix}$$

```
A=
\begin{bmatrix}
a_{11} & a_{12} & \cdots & a_{1n} \\
a_{21} & a_{22} & \cdots & a_{2n} \\
\vdots & \vdots & & \vdots  \\
a_{m1} & a_{m2}& \cdots & a_{mn} \\
\end{bmatrix}
```

https://mathlandscape.com/latex-matrix/

$$\left.\begin{bmatrix}
a_{11} & a_{12} & \ldots & a_{1n} \\
a_{21} & a_{22} & \ldots & a_{2n} \\
\vdots & \vdots & \ddots & \vdots \\
a_{n1} & a_{n2} & \ldots & a_{nn}
\end{bmatrix}\right\} = n個$$

```
\begin{eqnarray}
\left.
\begin{bmatrix}
 a_{11} & a_{12} & \dots & a_{1n} \\
 a_{21} & a_{22} & \dots & a_{2n} \\
 \vdots & \vdots & \ddots & \vdots \\
 a_{n1} & a_{n2} & \dots & a_{nn}
\end{bmatrix}
\right\}
 = n個
\end{eqnarray}
```

http://xyoshiki.web.fc2.com/tex/form0121.html

$$\mathbf{e}_1:=\left.\begin{bmatrix}1\\0\\\vdots\\0\end{bmatrix}\right\} = n個$$

```
\mathbf{e}_1:=
\left.
\begin{bmatrix}
1 \\
0 \\
\vdots   \\
0 \\
\end{bmatrix}
\right\}
 = n個
```

$$A=\underset{m\times n}{(a_{ij})}=\left.\underbrace{\begin{bmatrix} a_{11} & a_{12} & \dots & a_{1n}\\ a_{21} & a_{22} & \dots & a_{2n}\\ \vdots & \vdots & \ddots & \vdots\\ a_{m1} & a_{m2} & \dots & a_{mn}\end{bmatrix}}_{\text{n columns}}\right\}\text{m rows}$$

```
\begin{equation*}
% a disposable command for avoiding repetitions
\newcommand{\zm}{%
  \begin{bmatrix}
    a_{11} & a_{12} & \dots & a_{1n}\\
    a_{21} & a_{22} & \dots & a_{2n}\\
    \vdots & \vdots & \ddots & \vdots\\
    a_{m1} & a_{m2} & \dots & a_{mn}\\
  \end{bmatrix}%
}
A=\underset{m\times n}{(a_{ij})}=
  \left.
  \,\smash[b]{\underbrace{\!\zm\!}_{\textstyle\text{$n$ columns}}}\,
  \right\}\text{$m$ rows}
  \vphantom{\underbrace{\zm}_{\text{$n$ columns}}}
```

```
\end{equation*}
```

https://tex.stackexchange.com/questions/644625/how-can-i-have-both-horizontal-and-vertical-curly-braces-in-a-matrix

$$
\begin{bmatrix}
\begin{array}{cccc}
\sigma_1 & 0 & \dots & 0 & \dots & 0\\
0 & \sigma_2 & \dots & 0 & \dots & 0\\
\vdots & \vdots & \ddots & \vdots & \ddots & \vdots\\
0 & \dots & \dots & \sigma_N & \dots & 0\\
0 & 0 & \dots & 0 & \dots & 0\\
\vdots & \vdots & \ddots & \vdots & \dots & \vdots\\
0 & 0 & \dots & 0 & \dots & 0
\end{array}
\end{bmatrix}
$$

```
\begin{eqnarray}
\begin{bmatrix}
\begin{array}{cccc}
  \sigma_1 & 0        & \dots  & 0      & \dots   & 0\\
  0        & \sigma_2 & \dots  & 0 & \dots   &  0\\
  \vdots   & \vdots & \ddots & \vdots & \ddots   & \vdots\\
  0        & \dots  & \dots & \sigma_N & \dots   & 0\\
  0        & 0      & \dots  & 0       & \dots & 0\\
  \vdots   & \vdots & \ddots & \vdots & \dots   & \vdots\\
  0        & 0      & \dots  & 0      & \dots   & 0\\
\end{array}
\end{bmatrix}\\
\end{eqnarray}
```

連立方程式

$$
\left\{
\begin{aligned}
x = a + b \\
y = c + d
\end{aligned}
\right.
$$

```
\left\{
   \begin{align*}
      x = a + b \\
      y = c + d
   \end{align*}
\right.
```

運動方程式

$$
m\frac{d\mathbf{v}}{dt} = \mathbf{F}
$$

```
\begin{eqnarray}
m \frac{d \mathbf{v}}{dt}=\mathbf{F}
\end{eqnarray}
```

$$\begin{aligned}\rho\frac{du}{dt} &= F_x\\ \rho\frac{dv}{dt} &= F_y\\ \rho\frac{dw}{dt} &= F_z\end{aligned} \tag{1}$$

```
\begin{eqnarray}
 \rho\frac{du}{dt} &=& F_x\\
 \rho\frac{dv}{dt} &=& F_y \\
 \rho\frac{dw}{dt} &=& F_z \\
\end{eqnarray} \tag{1}
```

プリュームモデル

$$w_c \frac{\partial s_c}{\partial z} = L_v c-\epsilon W_c(s_c-s_e) \tag{1}$$

$$w_c \frac{\partial q_{v,c}}{\partial z} = c-\epsilon W_c(s_{v,c}-s_{v,e}) \tag{2}$$

$$w_c \frac{\partial q_{l,c}}{\partial z} = c -G \epsilon - W_c q_{l,c} \tag{3}$$

```
\begin{eqnarray}
w_c \frac{\partial s_c}{\partial z}&=&L_vc-\epsilon W_c(s_c-s_e) \tag{1}\\
w_c \frac{\partial q_{v,c}}{\partial z}&=& c-\epsilon W_c(s_{v,c}-s_{v,e})
\tag{2} \\
w_c \frac{\partial q_{l,c}}{\partial z}&=& c -G \epsilon - W_c q_{l,c} \tag{3}\\
\end{eqnarray}
```

収支式

$$d\bigg(\frac{\partial h_b}{\partial t} + \mathbf{V}_h\cdot\nabla h_b \bigg)=F_h-(M_d+w_e)(h_b-h_m)-\dot{Q}_bd \tag{2}$$

```
\begin{eqnarray}
d\bigg(\frac{\partial h_b}{\partial t} + \mathbf{V}_h\cdot\nabla h_b \bigg)=F_h-
(M_d+w_e)(h_b-h_m)-\dot{Q_b}d
\tag{2}
\end{eqnarray}
```

Q1, Q2 of Yanai et al. (1973)

$$Q_1:=-\frac{\partial \overline{q''\omega''}}{\partial p}+Q_R-L(c-e) \quad \bigg(= \frac{\partial \overline{q}}{\partial t}+\nabla\cdot \overline{s\mathbf{v}}+\frac{\partial \overline{s\omega}}{\partial p} \bigg) \tag{1}$$

```
\begin{eqnarray}
Q_1:=-\frac{\partial \overline{ q" \omega"}}{\partial p}+Q_R-L(c-e) \quad \bigg(=
\frac{\partial \overline{q}}{\partial t}+\nabla\cdot
\overline{s\mathbf{v}}+\frac{\partial \overline {s \omega}}{\partial p} \bigg)
\tag{1}
\end{eqnarray}
```

$$Q_2:=L\frac{\partial \overline{q''\omega''}}{\partial p}+L(c-e) \quad \bigg(= -L\bigg[\frac{\partial \overline{q}}{\partial t}+\nabla\cdot \overline{q\mathbf{v}}+\frac{\partial \overline{q\omega}}{\partial p} \bigg]\bigg) \tag{2}$$

```
\begin{eqnarray}
Q_2:=L\frac{\partial \overline{ q" \omega"}}{\partial p}+L(c-e) \quad \bigg(= -
L\bigg[\frac{\partial \overline{q}}{\partial t}+\nabla\cdot
\overline{q\mathbf{v}}+\frac{\partial \overline {q \omega}}{\partial p}
\bigg]\bigg)
\tag{2}
\end{eqnarray}
```

移流項

$$u\frac{\partial u}{\partial x}+v\frac{\partial u}{\partial y} =\frac{\partial (uu)}{\partial x}+\frac{\partial (uv)}{\partial y} \tag{3}$$

```
\begin{eqnarray}
u\frac{\partial u}{\partial x}+v\frac{\partial u}{\partial y}
=\frac{\partial (uu)}{\partial x}+\frac{\partial (uv)}{\partial y}\\
\end{eqnarray}
\tag{3}
```

温度風

$fu=-\partial \phi / \partial y$

```
fu=-\partial \phi / \partial y
```

$dp=-\rho g dz$

```
dp=-\rho g dz
```

$\partial \phi / \partial p = -\alpha$

```
\partial \phi/\partial p=-\alpha
```

$$f\frac{\partial u}{\partial p}=-\frac{\partial}{\partial y}\bigg({\frac{\partial \phi}{\partial p}} \bigg)=\frac{\partial \alpha}{\partial y}$$

```
\begin{eqnarray}
f\frac{\partial u}{\partial p}=-\frac{\partial}{\partial y}\bigg({\frac{\partial
\phi}{\partial p}} \bigg)=\frac{\partial \alpha}{\partial y}
\end{eqnarray}
```

$y=a\phi$を用いると,

$$\frac{\partial u}{\partial p}=\frac{1}{af}\frac{\partial \alpha}{\partial \phi}$$

```
\begin{eqnarray}
\frac{\partial u}{\partial p}=\frac{1}{af}\frac{\partial \alpha}{\partial \phi}
\end{eqnarray}
```

レイアウト

改行

```
<\br >
```

改ページ

```
<div class="page-break"></div>
```