- **Text: Umlaute & fonts:**
  rm: Äqüätœr abcABC00, 123-45+6.0%§,
  it: *Äqüätœr abcABC00, 123-45+6.0%§,*
  sf: Äqüätœr abcABC00, 123-45+6.0%§,
  tt: `Äqüätœr abcABC00, 123-45+6.0%§,`
  cal: Äqüätœr abcABC00, 123-45+6.0%ℊ,
  scr: Äqüätœr abcABC00, 123-45+6.0%§,
  bb: Äqüätœr abcABC00, 123-45+6.0%§,
  frak: Äqüätœr abcABC00, 123-45+6.0%§,

- **text: Umlaute:** ÄäÀàÁáÂâÃãÅåĂ㥥ĀāÅåÆæČčËëèŁłÖöÒòÓóÔôÕõØøŒæŠšßÜüÙùÚúÛûŨũ

- **math: Umlaute and fonts**
  rm: Äqüätœr abcABC00, 123-45+6.0%§
  bs: $Äqüätœrabc ABC00, 123 - 45 + 6.0\%§,$,
  it: $Äqüätœrabc ABC00, 123 - 45 + 6.0\%§,$
  rm: $Äqüätœrabc ABC00, 123 - 45 + 6.0\%§,$
  sf: $Äqüätœrabc ABC00, 123 - 45 + 6.0\%§,$
  tt: $Äqüätœrabc ABC00, 123 - 45 + 6.0\%§,$
  cal: $ÄII\ddot{\sqcap}\sqcup œ\nabla\dashv\lfloor\rfloor \mathcal{ABC}\,\prime\prime, \infty\in\ni - \triangle\triangledown + \mathcal{I}\%§,$
  scr: $\mathscr{Ä}œ\mathscr{ABC}, - + .\%§,$
  bb: $Ä_{\parallel}\widetilde{\approx}\ddot{\partial}\approx œ\setminus\Game\mathbb{ABC}⊬⊬, ⊬⊬⊬ - ⊭⊬ + ⊬⊬\%§,$
  frak: $\mathfrak{Äqüätœrabc ABC00, 123 - 45 + 6.0}\%§$

- **std dev:**

$$\sigma_x = \sqrt{\langle(x - \langle x\rangle)^2\rangle} = \sqrt{\frac{1}{N-1}\cdot\left(\sum_{i=1}^{N}{x_i}^2 - \frac{1}{N}\cdot\left(\sum_{i=1}^{N}x_i\right)^2\right)}$$

- **std dev 2:**

$$\sigma_x = \sqrt{\langle (x - \langle x \rangle)^2 \rangle} = \sqrt{\frac{1}{N-1} \cdot \left(\sum_{i=1}^{N} x_i^2 - \frac{1}{N} \cdot \left(\sum_{i=1}^{N} x_i \right)^2 \right)}$$

- **rotation matrix:**

$$\mathbf{M}(\alpha) = \begin{pmatrix} \cos(\alpha) + n_x^2 \cdot (1 - \cos(\alpha)) & n_x \cdot n_y \cdot (1 - \cos(\alpha)) - n_z \cdot \sin(\alpha) & n_x \cdot n_z \cdot (1 - \cos(\alpha)) + n_y \cdot \sin(\alpha) \\ n_x \cdot n_y \cdot (1 - \cos(\alpha)) + n_z \cdot \sin(\alpha) & \cos(\alpha) + n_y^2 \cdot (1 - \cos(\alpha)) & n_y \cdot n_z \cdot (1 - \cos(\alpha)) - n_x \cdot \sin(\alpha) \\ n_z \cdot n_x \cdot (1 - \cos(\alpha)) - n_y \cdot \sin(\alpha) & n_z \cdot n_y \cdot (1 - \cos(\alpha)) + n_x \cdot \sin(\alpha) & \cos(\alpha) + n_z^2 \cdot (1 - \cos(\alpha)) \end{pmatrix}$$

- **like in label at bottom (no MM):**

$$\left(\left[\sqrt{2\pi \cdot \int_{-\infty}^{\infty} f(x) \, \mathrm{d}x} \right] \right)$$

- **like in label at bottom (MM):**

$$\left(\left[\sqrt{2\pi \cdot \int_{-\infty}^{\infty} f(x) \, \mathrm{d}x} \right] \right)$$

- **decoration:**

$$\vec{x}\vec{X}\vec{\psi} - -\dot{x}\dot{X}\dot{\psi} - -\ddot{x}\ddot{X}\ddot{\psi} - -\overline{x}\overline{X\psi} - -\underline{xX}\underline{\psi} - -\hat{x}\hat{X}\hat{\psi} - -\tilde{x}\tilde{X}\tilde{\psi} - -\underline{\underline{xX}}\underline{\underline{\psi}} - -\overline{\overline{x}}\overline{\overline{X\psi}} - -\bar{x}\bar{X}\bar{\psi} - -\overrightarrow{x}\overrightarrow{X}\overrightarrow{\psi}$$

- **mathtest:**

  This is normal text: $thisismath : \langle r^2(\tau) \rangle = \langle (\vec{r}(t) - \vec{r}(t + \tau))^2 \rangle$ $g(\tau) = \frac{1}{N} \cdot \left(1 + \frac{2}{3} \frac{\langle r^2(\tau) \rangle}{w_{xy}^2} \right)^{-1} \bigsqcup \bigsqcap \langle \rangle \{ \vec{a} \, | \, \|\vec{a}\|_2 \geq 2 \} \vec{r}\vec{R}$

  $\frac{\sqrt{\sqrt{\sqrt{\sum_{i=0}^{\infty} \hat{i}^2 + y^\alpha} + 1}}}{\dot{v} \equiv \ddot{r}} \arg\min_{\vec{k}} \sum_{\sqrt{i}=0}^{N} \int_{x_0}^{x_1} (((x))) \underbrace{\left[\left\{ \frac{\partial f}{\partial x} \right\} \cdot \frac{1}{2} \right]}$ underbraced text $\hbar \cdots \frac{\sqrt{\sum_{i=0}^{2} \hat{i}^2} + y^\alpha}{\dot{v} \equiv \ddot{r}}, \hat{t}\hat{T} \overbrace{\left| \sqrt{x \cdot Y} \right|} \propto \mathbb{N} \circ \mathbb{Z}$

  $\left\langle \overrightarrow{x(\tau)} \cdot \vec{R}(t + \bar{\tau}) \right\rangle \alpha\beta\gamma\delta\epsilon\Gamma\Delta\Theta\Omega \left\lfloor \left\lceil \sqrt[3]{\hbar\omega} \right\rceil \right\rfloor$

- **chi2 test:**

$$\vec{p}^{\,*} = \arg\max_{\vec{p}} \chi^2 = \arg\max_{\vec{p}} \sum_{i=1}^{N} \left| \frac{\hat{f}_i - f(x_i; \vec{p})}{\sigma_i} \right|^2$$

- **upper/lower parantheses test:**

$$\text{bblabla} \frac{1}{2} \cdot \left(\frac{1}{e^x + e^{-x}} \right) \cdot \left(\frac{1}{\frac{1+2}{5+x}} \right) \cdot \left(\frac{1}{\exp\left[-\frac{y^2}{\sqrt{x}}\right] \cdot \exp\left[-\frac{1}{2}\right]} \right)$$

- **ACF test:**

$$g_{rg}^{ab}(\tau) = \frac{1}{N} \cdot \left(1 + \frac{2}{3} \frac{\langle r^2(\tau) \rangle}{w_{xy}^2} \right)^{-1} \cdot \left(1 + \frac{2}{3} \frac{\langle r^2(\tau) \rangle}{w_{xy}^2} \right)^{-\frac{1}{2}}$$

- **MSD test:**

$$\text{MSD}(\tau) \equiv \langle r^2(\tau) \rangle = \left\langle (\vec{r}(t) - \vec{r}(t+\tau))^2 \right\rangle = 2n \cdot \frac{K_\alpha}{\Gamma(1+\alpha)} \cdot \tau^\alpha$$

- **math: blackboard:**

$$\mathbb{ABCDEFGHIJKLMNOPQRSTUVWXYZ}\Bbbk\nmid\Bbbk$$

- **math: bf:**

$$\mathbf{ABCDEFGHIJKLMNOPQRSTUVWXYZ120}$$

- **math: rm:**

$$\mathrm{ABCDEFGHIJKLMNOPQRSTUVWXYZ120}$$

- **math: cal:**

$$\mathcal{ABCDEFGHIJKLMNOPQRSTUVWXYZ}\infty\in\prime$$

- **subscript test:**

$$r_{123} \quad r_{\frac{1}{2}}$$

- **subscript0 test:**

$$r_{123}$$

- **subscript1 test:**

$$r_{123}$$

- **subscript2 test:**

$$r_{123}$$

- **subscript3 test:**

$$r_{123}r_{\frac{1}{2}}$$

- **superscript test:**

$$r^{123} \quad r^{\frac{1}{2}}$$

- **superscript0 test:**

$$r^{123}$$

- **superscript1 test:**

$$r^{123}$$

- **superscript2 test:**

$$r^{123}$$

- **superscript3 test:**

$$r^{123}r^{\frac{1}{2}}$$

- **asuperscript test:**

$$a^{123} \quad a^{\frac{1}{2}}$$

- **asuperscript0 test:**

$$a^{123}$$

- **gsuperscript1 test:**
$$g^{123}$$

- **gsuperscript2 test:**
$$g^{123}$$

- **gsuperscript3 test:**
$$g^{123} g^{\frac{1}{2}}$$

- **frac test:**
$$\frac{a}{b} + \frac{g}{a} - \frac{a^2}{b^2} \cdot \frac{a^2}{b^{\frac{1}{2}}}$$

- **tfrac test:**
$$\tfrac{a}{b} + \tfrac{g}{a} - \tfrac{a^2}{b^2} \cdot \tfrac{a^2}{b^{\frac{1}{2}}}$$

- **dfrac test:**
$$\frac{a}{b} + \frac{g}{a} - \frac{a^2}{b^2} \cdot \frac{a^2}{b^{\frac{1}{2}}}$$

- **stackrel test:**
$$\stackrel{a}{b} + \stackrel{g}{a} - \stackrel{a^2}{b^2} \cdot \stackrel{a^{2}}{b^{\frac{1}{2}}}$$

- **brace5 test: ( )**
$$\big(\big(\big(r^{123}\big)\big)\big) - - \big(\big(\big(r^{123}\big)\big)\big)$$

- **brace6 test: [ ]**
$$\big[\big[\big[r^{123}\big]\big]\big] - - \big[\big[\big[r^{123}\big]\big]\big]$$

- **brace7 test:**
$$\big\{\big\{\big\{r^{123}\big\}\big\}\big\} - - \big\{\big\{\big\{r^{123}\big\}\big\}\big\}$$

- **brace8 test:** —— ——

$$\|\|\|\|\|r^{123}\|\|\|\|\| -- \|\|\|\|\|r^{123}\|\|\|\|\|$$

- **brace9 test:** — —

$$\|\|\|r^{123}\|\|\| -- \|\|\|r^{123}\|\|\|$$

- **brace10 test**

$$\left\{\left[\left(r^{123}\right)\right]\right\} -- \left\{\left[\left(r^{123}\right)\right]\right\}$$

- **brace11 test: floor**

$$\lfloor\lfloor\lfloor r^{123}\rfloor\rfloor\rfloor -- \lfloor\lfloor\lfloor r^{123}\rfloor\rfloor\rfloor$$

- **brace12 test: ceil**

$$\lceil\lceil\lceil r^{123}\rceil\rceil\rceil -- \lceil\lceil\lceil r^{123}\rceil\rceil\rceil$$

- **sub-, superscript test**

$$r^{1234}_{321}r^{1234}_{321} -- r^{1234}_{321}r^{1234}_{321} -- \kappa^2 -- \kappa_2 -- \kappa_2^2$$

- **super-, subscript test**

$$r^{123}_{4321}r^{123}_{4321} -- r^{123}_{4321}r^{123}_{4321} -- \kappa^2 -- \kappa_2 -- \kappa_2^2$$

- **math 1:**

$$f(x) = \int_{-\infty}^{x} e^{-t^2}\, \mathrm{d}t$$

- **math 2:**

$$\sum_{i=1}^{\infty} \frac{-e^{i\pi}}{2^n}$$

- **math 3:**

$$\det \begin{pmatrix} 1 & x_1 & \ldots & x_1^{n-1} \\ 1 & x_2 & \ldots & x_2^{n-1} \\ \vdots & \vdots & \ddots & \vdots \\ 1 & x_n & \ldots & x_n^{n-1} \end{pmatrix} = \prod_{1 \le i < j \le n} (x_j - x_i)$$

- **math 4:**

$$M\sqrt{1+\sqrt{1+\sqrt{1+\sqrt{1+\sqrt{1+\sqrt{1+x}}}}}}$$

- **math 4:**

$$M\sqrt[3]{1+\sqrt[3]{1+\sqrt[3]{1+\sqrt[3]{1+\sqrt[3]{1+\sqrt[3]{1+x}}}}}}$$

- **math 4:**

$$M\sqrt{1+X}\sqrt[3]{1+X}\,{}^{3.14156}\!\!\sqrt{1+X}$$

- **math 4:**

$$M\sqrt{1+X}\sqrt[\frac{1}{3}]{1+X}\,{}^{3.14156\cdot\frac{1}{2}}\!\!\sqrt{1+X}$$

- **math 4:**

$$M\sqrt{\frac{1}{2}+\sqrt{\frac{1}{2}+\sqrt{\frac{1}{2}+\sqrt{\frac{1}{2}+\sqrt{\frac{1}{2}+\sqrt{1+x}}}}}}$$

- **math 4:**

$$M\sqrt{a}\frac{\sqrt{a}}{\sqrt{a}}\sqrt{\frac{1}{a}}$$

- **math 5:**

$$\binom{p}{2}=x^2y^{p-2}-\frac{1}{1-x}\frac{1}{1-x^2}$$

- **math 6:**

$$a_0+\cfrac{1}{a_1+\cfrac{1}{a_2+\cfrac{1}{a_3+\cfrac{1}{a_4}}}}$$

- **math 7:**

$$\left(\frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2}\right) |\varphi(x + \mathrm{i}y)|^2 = 0$$

- **math 8:**

$$2^{2^{2^x}}$$

- **math 9:**

$$\iint_D f(x, y) \, \mathrm{d}x \, \mathrm{d}y$$

- **math 10 (overbrace):**

$$\overbrace{x + x + \ldots + x}^{k \text{ times}}$$

- **math 11 (underbrace):**

$$\underbrace{x + x + \ldots + x}_{k \text{ times}}$$

- **math 12 (under/overbrace):**

$$\underbrace{\overbrace{x + x + \ldots + x}^{k \text{ times}} \overbrace{x + x + \ldots + x}^{k \text{ times}}}_{2k \text{ times}}$$

- **math 13:**

$$y_1'' \quad y_2'''$$

- **math 14:**

$$f(x) = \begin{cases} 1/3 & \text{if } 0 \le x \le 1 \\ 2/3 & \text{if } 3 \le x \le 4 \\ 0 & \text{elsewhere} \end{cases}$$

- **math 15:**

$$\Re z = \frac{n\pi \dfrac{\theta + \psi}{2}}{\left(\dfrac{\theta + \psi}{2}\right)^2 + \left(\dfrac{1}{2} \log \left|\dfrac{B}{A}\right|\right)^2}.$$

- **math 16:**

$$\sum_{m=1}^{\infty} \sum_{n=1}^{\infty} \frac{m^2\, n}{3^m\, (m\, 3^n + n\, 3^m)}$$

- **math 17:**

$$\phi_n(\kappa) = \frac{1}{4\pi^2 \kappa^2} \int_0^{\infty} \frac{\sin(\kappa R)}{\kappa R} \frac{\partial}{\partial R} \left[R^2 \frac{\partial D_n(R)}{\partial R} \right] dR$$

- **math 18:**

$$_pF_q(a_1, \ldots, a_p; c_1, \ldots, c_q; z) = \sum_{n=0}^{\infty} \frac{(a_1)_n \cdots (a_p)_n}{(c_1)_n \cdots (c_q)_n} \frac{z^n}{n!}$$

- **math 19 (overset):**

$$X \overset{=}{def} Y \qquad X \overset{=}{!} Y \qquad X \vec{f} Y \qquad \frac{f(x+\Delta x) - f(x)}{\Delta x} \overset{\longrightarrow}{\Delta x \to 0} f'(x)$$

- **math 20 (underset):**

$$X \underset{=}{def} (5) Y \qquad X \underset{\to}{f} Y \qquad \frac{f(x+\Delta x) - f(x)}{\Delta x} \underset{\longrightarrow}{\Delta x \to 0} f'(x)$$

- **axiom of power test:**

$$\forall A\, \exists P\, \forall B\, [B \in P \iff \forall C\, (C \in B \Rightarrow C \in A)]$$

- **De Morgan's law:** $\neg(P \wedge Q) \iff (\neg P) \vee (\neg Q)$ or $\overline{\bigcap_{i \in I} A_i} \equiv \bigcup_{i \in I} \overline{A_i}$ or $\overline{A \cup B} \equiv \overline{A} \cap \overline{B}$

- **quadratic formula:**

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

- **combination:**

$$\binom{n}{k} = \frac{n(n-1)\ldots(n-k+1)}{k(k-1)\ldots 1} = \frac{n!}{k!(n-k)!}$$

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- **Sophomore's dream 1:**

$$\int_0^1 x^{-x}\,dx = \sum_{n=1}^{\infty} n^{-n} \left({\scriptstyle =1.29128599706266354040728259059560054149861936827...} \right)$$

- **Sophomore's dream 2:**

$$\int_0^1 x^x\,dx = \sum_{n=1}^{\infty} (-1)^{n+1} n^{-n} = -\sum_{n=1}^{\infty} (-n)^{-n} \left({\scriptstyle =0.78343051071213440705926438652697546940768199014...} \right)$$

- **divergence 1:**

$$\operatorname{div}\vec{F} = \nabla \cdot \vec{F} = \frac{\partial U}{\partial x} + \frac{\partial V}{\partial y} + \frac{\partial W}{\partial z}$$

- **divergence 2:**

$$\overrightarrow{\operatorname{div}}\left(\underline{\underline{\epsilon}}\right) = \begin{bmatrix} \frac{\partial \epsilon_{xx}}{\partial x} + \frac{\partial \epsilon_{yx}}{\partial y} + \frac{\partial \epsilon_{zx}}{\partial z} \\ \frac{\partial \epsilon_{xy}}{\partial x} + \frac{\partial \epsilon_{yy}}{\partial y} + \frac{\partial \epsilon_{zy}}{\partial z} \\ \frac{\partial \epsilon_{xz}}{\partial x} + \frac{\partial \epsilon_{yz}}{\partial y} + \frac{\partial \epsilon_{zz}}{\partial z} \end{bmatrix}$$

- **lim, sum ...:**

$$\lim_{x \to \infty} f(x) = \binom{k}{r} + \frac{a}{b} \sum_{n=1}^{\infty} a_n + \left\{ \frac{1}{13} \sum_{n=1}^{\infty} b_n \right\}.$$

- **Schwinger-Dyson:**

$$\left\langle \psi \left| \mathcal{T}\{F\phi^j\} \right| \psi \right\rangle = \left\langle \psi \left| \mathcal{T}\{iF_{,i}D^{ij} - FS_{int,i}D^{ij}\} \right| \psi \right\rangle.$$

- **Schrödinger's equation:**

$$\left[-\frac{\hbar^2}{-2m} \frac{\partial^2}{\partial x^2} + V \right] \Psi(x) = i\hbar \frac{\partial}{\partial t} \Psi(x)$$

- **Cauchy-Schwarz inequality:**

$$\left(\sum_{k=1}^{n} a_k b_k\right)^2 \leq \left(\sum_{k=1}^{n} a_k^2\right)\left(\sum_{k=1}^{n} b_k^2\right)$$

- **Maxwell's equations:**

$$\nabla \times \vec{\mathbf{B}} - \frac{1}{c}\frac{\partial \vec{\mathbf{E}}}{\partial t} = \frac{4\pi}{c}\vec{\mathbf{j}}$$
$$\nabla \cdot \vec{\mathbf{E}} = 4\pi\rho$$
$$\nabla \times \vec{\mathbf{E}} + \frac{1}{c}\frac{\partial \vec{\mathbf{B}}}{\partial t} = \vec{\mathbf{0}}$$
$$\nabla \cdot \vec{\mathbf{B}} = 0$$

- **math: radicals:**

$$Hxq\sqrt{a}\sqrt{5}\sqrt{-1}\sqrt{h}\sqrt{jA}\sqrt{\vec{A}}\sqrt{\frac{1}{a}\frac{\sqrt{a}}{\sqrt{a}}}\sqrt{\frac{1}{1+\frac{1}{a}}\frac{1}{\sqrt{1+\frac{1}{a}}}}\sqrt{a+\sqrt{a+b}}$$

- **math: non-2 radicals:**

$$Hxq\sqrt[3]{a}\sqrt[3]{5}\sqrt[3]{-1}\sqrt[3]{h}\sqrt[3]{\vec{A}}\sqrt[3]{\frac{1}{a}\frac{\sqrt[3]{a}}{\sqrt[3]{a}}}\sqrt[3]{\frac{1}{1+\frac{1}{a}}\frac{1}{\sqrt[3]{1+\frac{1}{a}}}}\sqrt[3]{a+\sqrt[3]{a+b}}$$

- **math: long non-2 radicals:**

$$Hxq\sqrt[3.14156]{a}\sqrt[3.14156]{5}$$

- **math: sum, prod, ...:** no-limits:

$$Hxq\prod_{i=1}^{n}\sum_{j=1}^{c}(i+j)\cdot\frac{1}{2}$$

  – limits:

$$Hxq\prod_{i=1}^{n}\sum_{j=1}^{c}(i+j)\cdot\frac{1}{2}$$

- – long-below:

$$\sum_{n=\{a,b,c,d,e,f,g\}} f(x)$$

- – long-above:

$$\sum^{n=\{a,b,c,d,e,f,g\}} f(x)$$

- **math: more sum-symbols :**

$$Hxq \sum_{i=0}^{N} \prod_{i=0}^{N} \coprod_{i=0}^{N} \bigcup_{i=0}^{N} \bigcap_{i=0}^{N} \bigsqcup_{i=0}^{N} \bigvee_{i=0}^{N} \bigwedge_{i=0}^{N} \bigoplus_{i=0}^{N} \bigotimes_{i=0}^{N} \bigodot_{i=0}^{N} \biguplus_{i=0}^{N}$$

- **math: more sum-symbols, no-limits :** $Hxq \sum_{i=0}^{N} \prod_{i=0}^{N} \coprod_{i=0}^{N} \bigcup_{i=0}^{N} \bigcap_{i=0}^{N} \bigsqcup_{i=0}^{N} \bigvee_{i=0}^{N} \bigwedge_{i=0}^{N} \bigoplus_{i=0}^{N} \bigotimes_{i=0}^{N} \bigodot_{i=0}^{N} \biguplus_{i=0}^{N}$

- **math: integrals:** no-limits:

$$Hxq \int_{0}^{1} f(x)\,\mathrm{d}x \quad \iint_{0}^{1} f(x)\,\mathrm{d}x \quad \iiint_{0}^{1} f(x)\,\mathrm{d}x \quad \oint_{0}^{1} f(x)\,\mathrm{d}x \quad \int_{x} f(x)\,\mathrm{d}x$$

- – limits:

$$\int\limits_{0}^{1} f(x)\,\mathrm{d}x \quad \iint\limits_{0}^{1} f(x)\,\mathrm{d}x \quad \iiint\limits_{0}^{1} f(x)\,\mathrm{d}x \quad \oint\limits_{0}^{1} f(x)\,\mathrm{d}x \quad \int\limits_{x} f(x)\,\mathrm{d}x$$

- **math: frac test:**

$$\frac{a}{b} + \frac{g}{a} - \frac{a^2}{b^2} \cdot \frac{a^2}{b^{\frac{1}{2}}}$$

- **sfrac:** Hxq ½ – $Hxq\frac{1}{2}$ $^{1}\!/_{2}$ $\frac{1}{2+\frac{1}{2}}$ $^{1}\!/_{2} + ^{1}\!/_{2}$ $^{1}\!/_{2} + \frac{1}{2}$ $\frac{1}{2+\frac{1}{2}}/2$ $e^{1/2}$

- **brace+sub/superscript:** $\langle r_{123} \rangle \langle r^{123} \rangle \langle r^{123}_{123} \rangle$