STATISTIKA – přehled vzorců

$$\left(p-\frac{1}{2n}-u_{1-\alpha/2}\cdot\sqrt{\frac{p(1-p)}{n-1}}\ ;\ p+\frac{1}{2n}+u_{1-\alpha/2}\cdot\sqrt{\frac{p(1-p)}{n-1}}\right)$$

$$\left(\bar{x}-u_{1-\alpha/2}\cdot\frac{\sigma}{\sqrt{n}}\ ;\ \bar{x}+u_{1-\alpha/2}\cdot\frac{\sigma}{\sqrt{n}}\right),\quad \left(\bar{x}-t_{1-\alpha/2}(n-1)\cdot\frac{s}{\sqrt{n}}\ ;\ \bar{x}+t_{1-\alpha/2}(n-1)\cdot\frac{s}{\sqrt{n}}\right)$$

H_0: $\pi=\pi_0$ $\quad T=\dfrac{(p-\pi_0)\cdot\sqrt{n}}{\sqrt{\pi_0(1-\pi_0)}}$

H_1: $\pi\neq\pi_0$ ... $W=(-\infty;-u_{1-\alpha/2}\rangle\cup\langle u_{1-\alpha/2};\infty)$

H_1: $\pi>\pi_0$ ... $W=\langle u_{1-\alpha};\infty)$
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H_0: $\mu=\mu_0$ $\quad T=\dfrac{(\bar{x}-\mu_0)\cdot\sqrt{n}}{\sigma}$

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$T=\dfrac{(\bar{x}-\mu_0)\cdot\sqrt{n}}{s}$

H_1: $\mu\neq\mu_0$ ... $W=(-\infty;-t_{1-\alpha/2}(n-1)\rangle\cup\langle t_{1-\alpha/2}(n-1);\infty)$

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H_1: $\mu<\mu_0$ ... $W=(-\infty;-t_{1-\alpha}(n-1)\rangle$

H_0: $\mu_1=\ldots=\mu_r$ $\quad T=\dfrac{Q_m/(r-1)}{Q_v/(n-r)}$ $\qquad Q_{TOT}=s^2\cdot(n-1)=\sum_{i=1}^{r}\sum_{j=1}^{n_i}(y_{ij}-\bar{y})^2=Q_v+Q_m$

$Q_m=\sum_{i=1}^{r}(\bar{y}_i-\bar{y})^2\cdot n_i$ $\qquad Q_v=\sum_{i=1}^{r}\sum_{j=1}^{n_i}(y_{ij}-\bar{y}_i)^2$ $\qquad W=\langle F_{1-\alpha}(r-1,n-r);\infty)$

H_0: $P(x_1)=\pi_1,\ldots,P(x_r)=\pi_r$ $\quad T=\sum_{i=1}^{r}\dfrac{(n_i-o_i)^2}{o_i}$ $\quad W=\langle\chi^2_{1-\alpha}(r-1);\infty)$ $\qquad (o_i=n\cdot\pi_i)$

H_0: nezávislost $\quad T=\sum_{i=1}^{r}\sum_{j=1}^{s}\dfrac{(n_{ij}-o_{ij})^2}{o_{ij}}$ $\quad W=\langle\chi^2_{1-\alpha}(r-1)\cdot(s-1);\infty)$ $\quad (o_{ij}=(n_{i\bullet}\cdot n_{\bullet j})/n)$

$C_P=\sqrt{\dfrac{T}{T+n}}$ $\quad \left\langle 0,\sqrt{(q-1)/q}\right\rangle$ $\quad q=\min(r,s)$ $\quad \varphi=\sqrt{\dfrac{T}{n}}$ $\quad V=\sqrt{\dfrac{T}{n(q-1)}}$ $\quad \langle 0,1\rangle$

$M_2^X=\overline{M_2^X}+M_2^{\bar{X}}$, $\qquad P_X^2=M_2^{\bar{X}}/M_2^X$

$b_1=\dfrac{\overline{xy}-\bar{x}\cdot\bar{y}}{\overline{x^2}-\bar{x}^2}$ $\qquad b_0=\bar{y}-b_1\bar{x}$

$Q_e=\Sigma(e_i)^2$ $\quad Q_y=\Sigma(y_i-\bar{y})^2$ $\qquad I^2=1-Q_e/Q_y$ $\qquad s_e^2=Q_e/(n-p)$

H_0: $\beta_1=\ldots=\beta_{p-1}=0$ $\qquad T=\dfrac{(Q_y-Q_e)/(p-1)}{Q_e/(n-p)}$ $\qquad W=\langle F_{1-\alpha}(p-1,n-p);\infty)$

$r=\dfrac{\overline{xy}-\bar{x}\cdot\bar{y}}{\sqrt{(\overline{x^2}-\bar{x}^2)\cdot(\overline{y^2}-\bar{y}^2)}}$ $\qquad H_0$: $\rho(x,y)=0$ $\quad T=\dfrac{r}{\sqrt{1-r^2}}\sqrt{n-2}$ $\qquad W=\left\{T,|T|\geq t_{1-\frac{\alpha}{2}}(n-2)\right\}$

$d_t=y_t-y_{t-1}$ $\qquad k_t=y_t/y_{t-1}$ $\qquad b_t=y_t/y_0$ $\qquad r_t=d_t/y_{t-1}$

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