$$\mathrm{d}S = \left(\frac{\partial S}{\partial U}\right)_{V,\sum\limits_{k=1}^{K} N_k} \mathrm{d}U + \left(\frac{\partial S}{\partial V}\right)_{U,\sum\limits_{k=1}^{K} N_k} \mathrm{d}V + \sum_{k=1}^{K} \left(\frac{\partial S}{\partial N_k}\right)_{U,V,N_j \neq N_k} \mathrm{d}N_k$$

Sie müssen sich das anschaulich vorstellen.

$$\mathrm{d}S = \left.\frac{\partial S}{\partial U}\right|_{\substack{V \\ \sum\limits_{k=1}^{K} N_k}} \Bigg\}_{=\text{const.}} \mathrm{d}U + \left.\frac{\partial S}{\partial V}\right|_{\substack{U \\ \sum\limits_{k=1}^{K} N_k}} \Bigg\}_{=\text{const.}} \mathrm{d}V + \sum_{k=1}^{K} \left.\frac{\partial S}{\partial N_k}\right|_{\substack{U \\ V \\ N_j \neq N_k}} \Bigg\}_{=\text{const.}} \mathrm{d}N_k$$

$$\mathrm{d}S = \left.\frac{\partial S}{\partial U}\right|_{\substack{V \\ \sum\limits_{k=1}^{K} N_k}} \Bigg\}_{= \text{ const.}} \mathrm{d}U + \left.\frac{\partial S}{\partial V}\right|_{\substack{U \\ \sum\limits_{k=1}^{K} N_k}} \Bigg\}_{= \text{ const.}} \mathrm{d}V + \sum_{k=1}^{K} \left.\frac{\partial S}{\partial N_k}\right|_{\substack{U \\ V \\ N_j \neq N_k}} \Bigg\}_{= \text{ const.}} \mathrm{d}N_k$$

$$\mathrm{d}S = \partial_U S \Big|_{\substack{V \\ \sum\limits_{k=1}^{K} N_k}} \Bigg\}_{= \text{ const.}} \mathrm{d}U + \partial_V S \Big|_{\substack{U \\ \sum\limits_{k=1}^{K} N_k}} \Bigg\}_{= \text{ const.}} \mathrm{d}V + \sum_{k=1}^{K} \partial_{N_k} S \Big|_{\substack{U \\ V \\ N_j \neq N_k}} \Bigg\}_{= \text{ const.}} \mathrm{d}N_k$$

$$\mathrm{d}S = \left(\frac{\partial S}{\partial U}\right)_{V,\{N_j\}} \mathrm{d}U + \left(\frac{\partial S}{\partial V}\right)_{U,\{N_j\}} \mathrm{d}V + \sum_{k=1}^{K} \left(\frac{\partial S}{\partial N_k}\right)_{U,V,\{N_j \neq N_k\}} \mathrm{d}N_k$$

Sie müssen sich das anschaulich vorstellen.

$$\iiint\limits_{V} \frac{f(\vec{\heartsuit})}{\varrho}\,\mathrm{d}V = \oiint \frac{1}{\varrho}\frac{\partial \Phi}{\partial n} - \Phi \frac{\partial\left(\frac{1}{\varrho}\right)}{\partial n} \mathrm{d}S - 4\pi\Phi_0$$

Sie müssen sich das anschaulich vorstellen.

$$\sum_{\substack{k_0,k_1,\ldots \geq 0 \\ k_0+k_1+\cdots=0}} a_{0k_0} a_{1k_1} \cdots$$

$$\oiint\limits_{\partial V} \frac{\Phi(\vec{\heartsuit})}{42}\mathrm{d}S - 4\pi\Phi_0 = \frac{1}{N_0} \iiint\limits_{V} \sum_{\substack{i,j=0 \\ i\neq j}}^{42} \left(\frac{\partial N_i}{\partial \Phi}\right)_V - \frac{\dot{N}_j}{\vec{\heartsuit}(\Phi)} \mathrm{d}V$$

Sie müssen sich das anschaulich vorstellen.