

Уравнение БЭТ



$$(\theta_0 + \theta_1 + \dots + \theta_k) = 1 \quad (1)$$

$$K_1 = \theta_1 / \{\theta_0 * p\}; \quad \theta_1 = K_1 \{\theta_0 * p\} \quad (2)$$

$$K_2 = \theta_2 / \{\theta_1 * p\} = 1/p_s; \quad \theta_2 = \{\theta_1 * p\} / p_s \quad (3)$$

$$C = K_1 / K_2 = K_1 p_s \quad (4)$$

$$\theta_2 = C * (\theta_0) * (p / p_s)^2 \quad (5)$$

$$K_2 = \theta_k / \{\theta_{k-1} * p\} \quad (6)$$

$$\theta_k = K_2 \{\theta_{k-1} * p\} = \{\theta_{k-1} * p\} / p_s \quad (7)$$

$$\theta_k = C * (\theta_0) * (p / p_s)^k; \quad (8)$$

$$\{\theta_0 + C * (\theta_0) * (p / p_s) + C * (\theta_0) * (p / p_s)^2 + \dots + C * (\theta_0) * (p / p_s)^k \dots\} = 1 \quad (9)$$

$$\theta_0 * \{1 + C * ((p / p_s) + (p / p_s)^2 + \dots + (p / p_s)^k)\} = 1; \quad (10)$$

$$\sum_k (p / p_s)^k = \frac{1 - (p / p_s)^k}{1 - (p / p_s)} - 1 = \frac{1}{1 - (p / p_s)} - 1$$

$$\theta_0 \left(1 + \frac{C}{1 - p/p_s} - C \right) = \theta_0 \left(\frac{1 - p/p_s + C - C + C^*(p/p_s)}{1 - p/p_s} \right) = \theta_0 \left(\frac{1 + (C-1)^*(p/p_s)}{1 - p/p_s} \right) = 1$$

$$\theta_0 = \left(\frac{1 - p/p_s}{1 + (C-1)^*(p/p_s)} \right) \quad (11)$$

$$a = a_m \times (\theta_1 + 2\theta_2 + \dots k\theta_k) \quad (12)$$

$$a = a_m \theta_0 \left(\frac{p}{p_s} \right) C \times \left(1 + 2 \left(\frac{p}{p_s} \right) + \dots k \left(\frac{p}{p_s} \right)^{k-1} \right)$$

$$a = a_m \theta_0 \left(\frac{p}{p_s} \right) C \times \frac{1}{\left(1 - \left(\frac{p}{p_s} \right) \right)^2} \quad (13)$$

$$a = \frac{a_m * C^*(p/p_s)^*(1 - (p/p_s))}{\{1 + (C-1)^*(p/p_s)\} * \{1 - (p/p_s)\}^2} = \frac{a_m * C^*(p/p_s)}{\{1 + (C-1)^*(p/p_s)\} * \{1 - (p/p_s)\}} \quad (14)$$

$$\frac{1}{a} \times \frac{1}{\left(1 - \frac{p}{p_s} \right)} = \frac{1}{a_m C} \times \frac{1}{\left(\frac{p}{p_s} \right)} + \frac{C-1}{a_m C} \quad (15)$$