?

$$S_q = \frac{k}{q-1}\left(1 - \sum_{i=1}^{W} p_i^q\right), \tag{1}$$

k
q
$S =$
$-k \sum_{i=1}^{W} p_i \ln p_i$
$q \to$
1
$\{p_i\}$
W
$\sum p_i =$
1
$W =$
1
q
A
B
q

$$\frac{S_q(A \cup B)}{k} = \frac{S_q(A)}{k} + \frac{S_q(B)}{k} + (1-q)\frac{S_q(A)}{k}\frac{S_q(B)}{k}, \tag{2}$$

regla
de
pseudo-
aditividad
$q \to$
1
$q <$
$(>$
$)1$
W
W_a
W_b
$p_a =$
$\sum_{i=1}^{W_a} p_i$
$p_b =$
$\sum_{i=W_a+1}^{W} p_i$

$$S_q(\{p_i\}) = S_q(p_a, p_b) + p_a^q S_q(\{p_i/p_a\}) + p_b^q S_q(\{p_i/p_b\}), \tag{3}$$

$\{p_i/p_{a(b)}\}$
q
1
$q \to$
1
$q <$
$(>$
$)1$
$p_i^q >$
$(<$
$)p_i$
$q >$
1
$q <$
1
?
W
$\langle U \rangle$
$\sum p_i =$
1
$\sum p_i \varepsilon_i =$
$\langle U \rangle$
ε_i
i
?

$$p_i = \frac{[1-(q-1)\beta\varepsilon_i]^{1/(q-1)}}{Z_q(\beta)}, \tag{4}$$

$Z_q(\beta) =$
$\sum [1-(q-1)\beta\varepsilon_i]^{1/(q-1)}$
$q \to$
1
$\sum p_i^q \varepsilon_i =$
U_q'
q
$\sum p_i^q \omega_i =$
Ω_q'
$\omega_i =$
1
$\sum p_i^q =$
$\langle 1 \rangle_q \neq$