Refutation of measures for resolution and symmetry in fuzzy logic of Zadeh Z-numbers

We assume the method and apparatus of Meth8/VŁ4 with `T`autology as the designated *proof* value, `F` as contradiction, `N` as truthity (non-contingency), and `C` as falsity (contingency). Results are a 16-valued truth table in row-major and horizontal.

LET p, q, r, s: A, B, H, Z;
~ Not; > Imply, greater than; < Not Imply, less than; = Equivalent;
% possibility, for one or some, sharpened; # necessity, for every or all;
(%p>#p) ordinal 1, truthity. Note: ~(x<y) = (x≥y).

From: Deng, Y.; Lia, Y. (2018). Measuring fuzziness of Z-numbers and its application in sensor data fusion. vixra.org/pdf/1807.0245v1.pdf dengentropy@uestc.edu.cn

Proof. Assume the fuzziness measure, H, ...

For G3 [resolution], denoted A∗ = (A∗, B∗), where A∗, B∗ are [a] sharpened version of A and B, respectively. So H(A)≥H(A∗) and H(B)≥H(B∗), therefore
H(A)+H(B)≥H(A∗)+H(B∗)) > H(Z)≥H(Z∗). (3.1)

(~((r&p)<(r&#p))&~((r&q)<(r&#q))) > (~(((r&p)+(r&q))<((r&#p)+(r&#q)))>
~((r&s)<(r&#s))) ; `TTTT TTTT TTTT NTTT` (3.2)

For G4, [symmetry] H(A)=H(1−A) and H(B)=H(1−B), so H(A)+H(B)=
(H(1−A))+(H(1−B))) > HZ(Z)=HZ(Z(1−A,1−B)). (4.1)

(((r&p)=(r&((%p>#p)-p)))&((r&q)=(r&((%p>#p)-q)))) >
((((r&p)+(r&q))=((r&((%p>#p)-p))+(r&((%p>#p)-q))))>
(((r&s)&s)=((r&s)&(s&(((%p>#p)-p)&((%p>#p)-q)))))) ; `TTTT TTTT TTTT CTTT` (4.2)

Eqs. 3.2 and 4.2 as rendered are *not* tautologous. This means the commonly accepted measures G3 (resolution) and G4 (symmetry) for the Zadeh (Z-numbers) fuzzy logic are refuted.