Why imaginary quaternions bear no nexus to reality

We evaluate the Hamiltonian quaternion using the Meth8/VŁ4 modal logic model checker.

From: Santana, Yeray Cachón. 2018. Fractals on non-euclidean metric. vixra.org/pdf/1804.0173v1.pdf

The quaternion is defined as equal to the negation of its conjugate.

q = a + b(î) + c(ĵ) + d($\hat{k}$); and the conjugate: q[*] = a - b(î) - c(ĵ) - d($\hat{k}$).   (1.0)

For simplicity, we set the real numbers a, b, c, d to 1.

(1 + (î) + (ĵ) + ($\hat{k}$) = ~(1 - (î) - (ĵ) - ($\hat{k}$)).   (1.1)

LET pqrs: 1, î, ĵ, $\hat{k}$; (%s>#s) 1, ordinal 1; (%s<#s) -1, negative ordinal 1;
necessity, for all; % possibility, for one or some; T tautology (designated proof value);
F contradiction; N truthity (non-contingency); C falsity (contingency);
The 16-valued table results are row-major and horizontal.

(((%s>#s)+q)+(r+s))=~(((%s>#s)-q)-(r-s)) ;   NNTT CCFF CCFF CCFF   (1.2)

Eq. 1.2 as rendered is *not* tautologous. This refutes Eq.1.0, that the quaternion is equal to the negation of its conjugate.

We attempt to strengthen the argument of Eq. 1.0 by injecting the rule of Hamilton for quaternion multiplication.

((i&j)&k)= -1   (2.1)

((q&r)&s)=~(%s>#s) ;   NNNN NNNC NNNN NNCC   (2.2)

While Eq. 2.2 as rendered is *not* tautologous, meaning Eq. 2.1 is not bi-valent, we proceed to combine Eq. 2.1 as the antecedent by implication to Eq.1.1 as the consequent in a strengthened argument.

(((i&j)&k)= -1) > ((1 + (i^) + (j^) + (k^) = ~(1 - (i^) - (j^) - (k^))) ;   (3.1)

(((q&r)&s)=~(%s>#s)) > ((((%s>#s)+q)+(r+s))=~(((%s>#s)-q)-(r-s))) ;
TTTT CCCN CCCC CCNN   (3.2)

Eq. 3.2 as rendered is *not* tautologous. The attempt to strengthen Eq. 1.1 failed.

This exercise effectively refutes the quaternion of Hamilton as *not* tautologous.