<u>Deducing the Simple Transforms across Light Speed, through the Complex Conjugates [i,-i] and [-i , i] which are Sufficient.</u>

Firstly, we see that if Lorentz holds, and holds for v>c , and also holds for the space of Imaginary Time, (deduced from Lorentz because Superluminal speeds imply imaginary time when v>c is put into Lorentz), then from the premise of Lorentz, then we can deduce the four analogues, for it, -t, t, and -it, thus:-

From Lorentz we have:-

$$it=t(1-v^2/c^2)^{1/2} \quad \text{when } v>c \qquad 1.$$

So that if Imaginary Time exists and speed v can be greater than the speed of light c then the above expression from Lorentz is the relationship of these.

Then we can further deduce the expression for the negative Time Sector (and thus backward in Time), thus:-

$$it.i=-t$$

Then from 1. above:-

$$i.it = it.(1-v^2/c^2)^{1/2}$$

So that :-

$$-t=it\ (1-v^2/c^2)^{1/2} \qquad 2.$$

Then:-

$$it.-i = t$$

And, again from 1;-

$$-i.it = -it.(1-v^2/c^2)^{1/2}$$

So that :-

$$t=-it\ (1-v^2/c^2)^{1/2} \qquad 3.$$

Then:-

$$-it= t(1-v^2/c^2)^{-1/2} \qquad 4.$$

<u>**These are the Four analogue expressions for it, -t, t, and -it, and the Transformations between each, between Real Time t and Imaginary Time it and Faster than Light Speed, using Lorentz.**</u>

At Light-speed, the whole Cosmos, if covered, is infinitely and instantly connected, and whose bandwidth is therefore infinite at this speed. Then, beyond Light-speed, and outside of Linear Time altogether, bandwidth connects the 'Space' of time(s), to save and connect the whole of the Cosmos's Past-present-and Future. The Postulate proposed is that this Space also saves part or indeed the whole of the Cosmos, both infinitely and instantly.

The way to imagine this 'Space' of time(s) is as the way the days are arranged in the simple calendar, which are then simply traversed back and forth by moving across and between each time across the whole plane of such a space. Spacetime in the Quantum realm is proposed to be like this, as an infinite and freely connected space of time(s). Relationally, each element of spacetime then takes many values simultaneously.

The suggestion is that The Arrow of Time is Conjugate, but that Time is split across the barrier limit of The Speed of Light, so that the conjugate part below lightspeed is singular and thus One-Direction-Arrowed, with the other part(s) lying in other direction(s) as Time's conjugates on the other side of Light-speed, faster than the Speed of Light. In turn, these facts are governed in part by Gravitational considerations.

Then, Considering the three spaces of the Subluminal, at Light-speed c, and Superluminal Realms, for speed v, we put these into the simple Scheme thus:-

$$v<c : v=c : v>c \qquad \textbf{A.}$$

Then we propose that these three states exist simultaneously (that is to say, exist at once and are therefore at equality so that they form a single Equation and transform structure between each part, for speed v and Speed of Light c.

Providing this holds, we can then put the following into equality to deduce the Transform Factors, F1 and F2 :-

F1 (Start, below light speed) → (Finish, above light speed) 1.

And:-

F2 (Finish, above light speed) → (Start, below light speed) 2.

So that Substituting 1 into 2 (and 2 back into 1) gives:-

F1.F2. (Finish)= (Finish)

And:-

F2.F1. (Start)= (Start)

So that:-

F1.F2.=1 and is therefore Identity.

And:-

F2.F1.=1 and is therefore Identity.

And:

F1.F2 = F2.F1.

Then we can use the following from the equality from A:

$$[v<c] \Leftrightarrow [v>c] \qquad \textbf{Alpha}$$

Then, Putting 1 and 2 into Alpha above:

F1 $(v<c) \rightarrow (v>c)$

And:-

F2$(v>c) \rightarrow (V<c)$

So that- F1.F2 = F2.F1 (and that F1 and F2 are Reciprocal) and is the Identity of the Transform Factors across **v=c**, that is to say, between **v<c** and **v>c,** if expressions A and Alpha hold.

Then:-

We see there are:-

F1 and F2 = A and B

From the Lorentz Scalar, (see my previous papers, and from Lorentz above), we have:-

[i,-i]   and   [-i, i]

Note F1 and F2 are deduced from Lorentz (by putting v<c and v >c)

So that:-

F1 = [i,-i]

And:-

F2 = [-i, i]

So that these are the Transform Factors, and they are deduced from expressions A., Alpha, and Lorentz and the Lorentz Scalar.

Stating this thus:

A[v<c] → [v>c]

B[v>c] → [v<c]

So that:-

A. = F1
B. = F2

And

F1.F2 = I (identity)

So that:

A.B. = I (identity) = [i , -i] [-i , i]

= I

So that [i , -i] and [-i , i] are indeed the Transforms for Alpha; **[v<c] ⇔ [v>c]**

<u>So that in Corrollary, v<c is covered by v>c, and each value of v<c has its Conjugate double in v>c, and these are sufficiently reached by [i , -i] and [-i , i]</u>.