



Liebscher 102

Figure 1: Pythagoras' theorem in Minkowski geometry

We draw a rectangular triangle using the Minkowski rule to find right angles. The right angle is that at  $C$ . Squares are diamonds with light-like diagonals (four right angles and symmetry). Then, we obtain the squares about the hypotenuse and the sides as shown. Comparing the areas we obtain that the square about the hypotenuse is equal to the *difference* of the squares about the opposite sides.

$$\begin{aligned}
 ACC_B A_B &= ACP_C A_C = Q_A Q_C C Q \\
 BAA_C B_C &= Q_B Q_A Q_B, \quad C_A B_A B C = Q_C Q_B B C \\
 \rightarrow & \quad BCC_A B_A - ACC_B A_B = A_C B_C B A.
 \end{aligned}$$