Refutation of GHZ experiments

We rely on this description from: en.wikipedia.org/wiki/GHZ_experiment .

> GHZ experiments are a class of physics experiments that may be used to generate starkly contrasting predictions from local hidden variable theory and quantum mechanical variable theory, and permit immediate comparison with actual experimental results. A GHZ experiment is similar to a test of Bell's inequality, except using three or more entangled particles, rather than two. With specific settings of GHZ experiments, it is possible to demonstrate absolute contradictions between the predictions of local hidden variable theory and those of quantum mechanics, whereas tests of Bell's inequality only demonstrate contradictions of a statistical nature. The results of actual GHZ experiments agree with the predictions of quantum mechanics.
>
> The GHZ experiments are named for Daniel M. Greenberger, Michael A. Horne, and Anton Zeilinger (GHZ) who first analyzed certain measurements involving four observers and who subsequently ... applied their arguments to certain measurements involving three observers.
>
> A GHZ experiment is performed using a quantum system in a Greenberger-Horne-Zeilinger state. An example of a GHZ state is three photons in an entangled state ... .
>
> [T]hey are able to obtain the following four equations concerning one and the same value λ:
>
> (1) $A(a_2 , \lambda) B(b_2 , \lambda) C(c_2 , \lambda) = -1$,
> (2) $A(a_2 , \lambda) B(b_1 , \lambda) C(c_1 , \lambda) = 1$,
> (3) $A(a_1 , \lambda) B(b_2 , \lambda) C(c_1 , \lambda) = 1$, and
> (4) $A(a_1 , \lambda) B(b_1 , \lambda) C(c_2 , \lambda) = 1$.
>
> Taking the product of the last three equations, and noting that
>
> (5) $A(a_1 , \lambda) A(a_1 , \lambda) = 1$,
> (6) $B(b_1 , \lambda) B(b_1 , \lambda) = 1$, and
> (7) $C(c_1 , \lambda) C(c_1 , \lambda) = 1$, yields
> (8) $A(a_2 , \lambda) B(b_2 , \lambda) C(c_2 , \lambda) = 1$
>
> in contradiction to the first equation [1.]; $1 \neq -1$. (9)

We assume the Meth8/VŁ4 apparatus and method. The designated *proof* value is `T` with `F` for contradiction and `C` for contingency and falsity. The table results are repeating 16-valued fragments.

> LET p, q, r, s, t, u, (%p>#p): a1, a2, b1, b2, c1, c2, 1; *A*, *B*, *C*, λ are ignored to simplify.

We apply the note in Eqs. 5, 6, 7 to the product of Eqs. 2, 3, 4 as tested to Eq. 1.

> (((p=(%p>#p))&(r=(%p>#p)))&(t=(%p>#p))) & ((((((q&r)&t)=(%p>#p))&
> (((p&s)&t)=(%p>#p)))&(((p&r)&u)=(%p>#p))) = (((q&s)&u)=~(%p>#p))); (10)

```
FFFFFFFFFFFFFFFF.FFFFFFFFFFFFFFFF.FFFFFFFFFFCFFFFF.FFFFFFFFFFFFFFFF
```

The expected result is supposed to be a contradiction (all `F`) in Eq. 9. However Eq. 10 as rendered is not a contradiction (notice the one bold value of **C**). This means the GHZ experiment is refuted, further supporting previous refutations of Bell's inequality using Meth8/VŁ4.