

## Refutation of the Borsuk-Ulam theorem (BUT)

© Copyright 2018 by Colin James III All rights reserved.

From: James F. Peters (University of Manitoba), Arturo Tozzi (University of North Texas). (2018).  
 Entangled antipodal points on black hole surfaces: the Borsuk-Ulam theorem comes into play.  
[vixra.org/pdf/1804.0014v1.pdf](https://vixra.org/pdf/1804.0014v1.pdf)

"BUT states that two features with matching description are mapped to a single feature one dimension lower, provided the function under assessment is continuous." (1.0)

We assume the method and apparatus of Meth8/VL4 with  $\tau$ autology as the designated *proof* value,  $F$  as contradiction,  $N$  as truthity (non-contingency), and  $C$  as falsity (contingency). The 16-valued truth table is row-major and horizontal.

LET:  $p$  fiducial point or region on a 2D plane or on an  $nD$  sphere;  
 $q$  podal point or region on a 2D plane or on an  $nD$  sphere;  
 $r$  contrapodal point or region on a 2D plane or on an  $nD$  sphere;  
 $s$  dimension  $D$ ;  
 $\sim$  Not;  $\&$  And;  $+$  Or;  $-$  Not Or;  $>$  Imply, greater than;  $=$  Equivalent;  
 $\%$  possibility, for one or some;  $\#$  necessity, for every or all;  
 $(\%s\>\#s)$  ordinal one, 1

We rewrite Eq. 1.0 as

If  $D > 1$ , then antipodal points as podal and contrapodal in  $D$  are mapped to a single point as fiducial in  $D-1$ . (1.1)

**Remark:** For a function to be continuous, it must be in greater than one dimension.

$$(s\>\%s\>\#s) > ((s\&(q\&r))\>((s-(\%s\>\#s))\&(p=(q+r))))$$

TTTT TTTT TTTT TTCC (1.2)

Eq. 1.2 as rendered is *not* tautologous due to the  $C$  contingency values (falsity), hence refuting BUT.

BUT is properly named the Borsuk-Ulam conjecture (BUC).