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antipodal

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Defines	antipodal points
Defines	antipodal map

Definition Suppose x and y are points on the `http://planetmath.org/Sphere`n-sphere S^n. If $x = -y$ then x and y are called **antipodal points**. The **antipodal map** is the map $A : S^n \to S^n$ defined as $A(x) = -x$.

Properties

1. The antipodal map $A : S^n \to S^n$ is `http://planetmath.org/HomotopyOfMaps`homotopic to the identity map if n is odd [?].

2. The `http://planetmath.org/DegreeMapOfSpheres`degree of the antipodal map is $(-1)^{n+1}$.

References

[1] V. Guillemin, A. Pollack, *Differential topology*, Prentice-Hall Inc., 1974.