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Hodges Conjecture Clay Institute Millennium Problem Solution

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Abstract: Here we consider the Hodge's Conjecture that expresses when a projective manifold coincides with a sum of algebraic cycles. More generally, this entails the convergence of geometry and calculus which has been discussed in this author's previous paper.

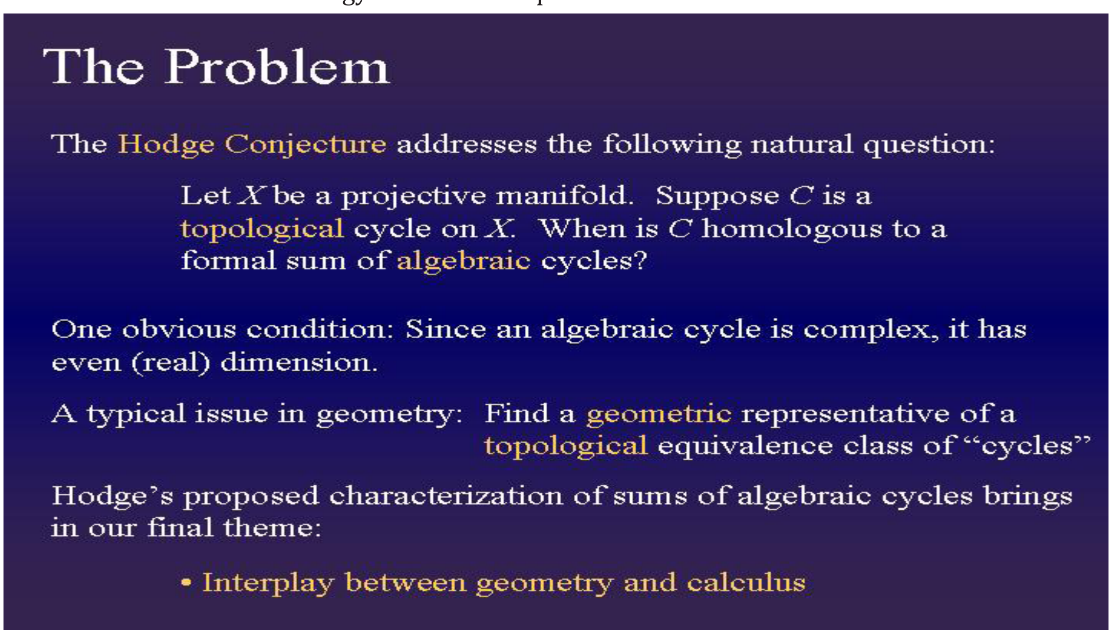
Keywords: Hodge's Conjecture; Polynomials; Analytic sums; Geometry; Calculus.

Introduction

In his paper, we consider the Hodge's Conject Clay Institute Millennium Problem solution.That problem is described as follows:

Hodge Conjecture

Let X be a non-singular complex projective manifold. Then every Hodge class on X is a linear combination with rational coefficients of the cosmology classes of complex sub varieties of X.



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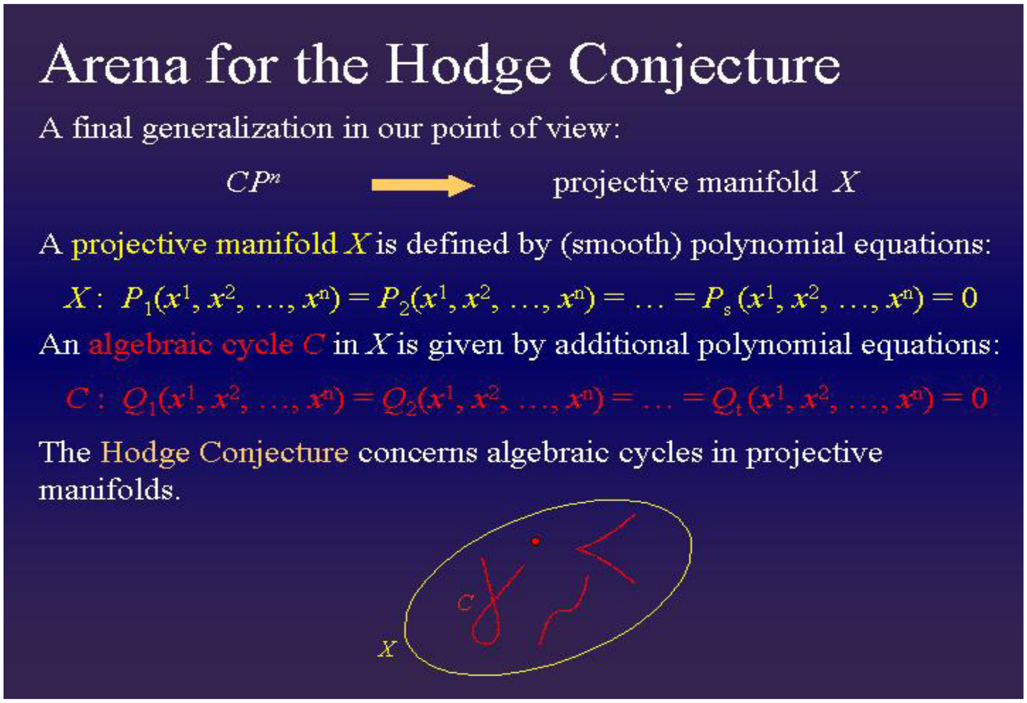

Ibid.

Consider:

$C\mathbb{P}^n$—≫Projected Manifold X Eq.(1)

X=Polynomial $\mathbb{P}^n$ Eq.(2)

C=Analytic function =transcendental (sin , Ln, e) Eq.(3)

Let X be the variable in the Golden Mean Polynomial

x^2-x=0 Eq.(4)

x(x-1)=0 Eq.(5)

x=0 Trivial

x=1singular

X=2 y=4 Eq.(6)

X=3 y=6

X=4 y=12

X=5 y=20

X=6 y=30

X=-1 y=2

X=-2 y=6

Etc.

Therefore, roots are always even.

Let $\sum C=C$ Eq.(7)

Therefore, the function equals the derivative.

$\int C=C^2/2=C$ Eq (8)

$C^2=2C$

$C=2$

$C\mathbb{P}^n=2\mathbb{P}^n=X$ Eq. (9)

$2\mathbb{P}^n=x^2-x-0$ Eq.(10)

$2\mathbb{P}^n=1$

$\mathbb{P}^n=1/2$

$\mathbb{P}={}^n\sqrt{(1/2)}=1/{}^n\sqrt{2}$ Eq.(11)

Let $C'=2/3 * 2^{3/2}=0.4242\sim\pi-e$ Eq.(12)

$C=\int(\pi-e^x)\,dx= x-e^x$ Eq.(13)

$C\mathbb{P}^n= (x-e^x)\,(1/{}^n\sqrt{2})=x^2-x$ Eq.(14)

So, the solution is:

$\mathbf{x^2-x-(x-e^x)\,(1/{}^n\sqrt{2})=0}$ Eq. (15)

When n=1, the last term becomes sin 45°= cos 45°

And the natural logarithm function:

when x=1, y=0

&

$y'=y=1$ Eq.(16)

This is the ln function.

$\sin u +v+x^2+y^2=z^2$ Eq.(17)

For $x^2 +y^2 = z^2$ =Radius=1 Eq.(18)

When x=1, y=0

$\sin u +v +\sin x^2 +\sin Y^2 = \sin (1)$ Eq.(19)

$0.8415 +(-0.8415) + (\sin {}^2 1)+(\sin^2 0)= 0.8415$ Eq.(20)

$\sin^2 0 =0$

$\sin^2 1=0.8415$

$0.8415-0.8415+0.0 +0.8415=0.8415$

$0+0.8415 =0.8415$ Eq.(21)

True!

Conclusion

We have worked out a possible set of solutions to the Hodges Conjecture. We have considered Analytic functions, C, summed into the general polynomial, P. This allows us to mold geometry and calculus together.

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