MATTHIAS FRANZ,

Symmetric products of maximal varieties

Let X be a complex algebraic variety equipped with an antiholomorphic involution τ. Then the mod 2 Betti sum of the real part X^τ cannot exceed the mod 2 Betti sum of X. In case of equality one calls X *maximal* or an *M-variety*. Biswas–D'Mello have shown that if a compact connected Riemann surface, say of genus g, is maximal, then so is its n-th symmetric power for $n \le 3$ and $n \ge 2g-1$. We show that this holds for any n. As we will explain, this is actually a purely topological statement about symmetric products and, more generally, Γ-products of equivariantly formal spaces.