

POWER SUM POLYNOMIALS

ANURAG SINGH

ABSTRACT. Let S be a polynomial ring over the complex numbers. We consider ideals I in S generated by a collection of power sum polynomials, and investigate when S/I is a complete intersection ring, a normal domain, or a unique factorization domain. When S has dimension three, a conjecture of Aldo Conca, Christian Krattenthaler, and Junzo Watanabe address the complete intersection property; we will talk about recent progress on this conjecture. This is joint work with Aldo Conca and Kannan Soundararajan.