

Nanostructured Hard Coatings Deposited by Physical Vapour Deposition Technology and their Tribological Applications

Abstract

In recent two decades, lots of research efforts have been made to develop nanostructured (nanolayered or nanocomposite) hard coatings by using physical vapour deposition (PVD) techniques. In this presentation, the PVD deposition techniques, the nanostructural characterization, hardness/toughness enhancement mechanisms and thermal stability of nano-structured coatings will be elaborated, along with their various applications as wear resistant, solid lubricious and solid particle erosion resistant coatings.

Short Bio for Dr. Qi Yang

Dr. Qi Yang is a senior research officer at Aerospace Research Center, National Research Council of Canada (NRC). He joined NRC in year 2000 shortly after he received his PhD from the University of Alberta. At NRC, his research activities mainly focus on coating characterization and performance evaluations, novel protective coating development for improved wear, corrosion and solid particle erosion performance. He has published more than 100 journal/ conference papers, reviewed more than 240 journal papers for more than 30 journals and served as associated editor/editorial board member for several journals. As the adjunct professor of Carleton University, he collaborates with professors on several projects and co-supervises graduate students.