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Sommario/riassunto	<p>This reprint provides a comprehensive overview of the surface topography of PVD coatings and their role in different tribological contacts. The authors show how the coating topography depends on the topography of the substrate's surface, the intrinsic coating morphology, and the growth defects formed during the deposition process. The authors also explain in more detail about how growth defects affect the functional properties of the PVD coatings (e.g. friction, wear, corrosion and oxidation resistance, permeation, wettability). The authors mainly focus on the growth defects in PVD hard coatings for the protection of tools and components, although they also touch on other areas of growth defect studies, particularly in relation to optics and microelectronics.</p>