VIRTUAL EAST-WEST SCV SEMINAR

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GEOMETRY OF COMPLEX MONOMIAL BALLS

We will discuss three types of complex domains: (a) multi-parameter balls, (b) log-convex Reinhardt domains and (c) weakly pseudo-convex domains of finite type. All these domains have the common property that their defining functions involve monomials. We will describe the structure of the complex monomial balls, namely the domains (a), in terms of the Reinhardt domains (b) and complex poly-disks, possibly of lower dimension. This description leads to sharp diagonal estimates for the Bergman kernel on the domains (a) and (c), in terms of those for (b). This is joint work with Alexander Nagel.