Analytic Chevalley-Shephard-Todd Theorem and its applications

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Chevalley-Shephard-Todd Theorem is a well-known theorem in invariant theory that characterizes finite pseudoreflection groups. We extend this theorem to the holomorphic setting. In this talk, we state the analytic version of Chevalley-Shephard-Todd (aCST) Theorem and provide its applications to complex analysis and operator theory. First we establish transformation formulae for weighted Bergman kernels and weighted Bergman projections using aCST Theorem. Then as another application of aCST, we discuss some results on Toeplitz operators on the weighted Bergman spaces of quotient domains Ω/G whenever G is a finite pseudoreflection group and the domain $\Omega \subseteq \mathbb{C}^n$ is a G-space.

These results are proved jointly with Shibananda Biswas, Swarnendu Datta, E. K. Narayanan and Subrata Shyam Roy.