

Comparing the Bergman and Szego projections on domains with subelliptic boundary Laplacian

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The difference between the Bergman and Szego projections on a (smooth) bounded pseudoconvex domain is smoothing whenever the boundary Laplacian is subelliptic. Equivalently, the Bergman projection can be expressed as a composition of the Szego and harmonic Bergman projections, along with the restriction and Poisson extension operators, up to smoothing errors. This result has several applications to the study of optimal mapping properties for these projections and their difference.