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Bergman kernel and its boundary asymptotics

We study variations of the Bergman kernel and their asymptotic behaviors at degeneration. For a holomorphic family of hyperelliptic nodal or cuspidal curves and their Jacobians, we announce our results on the Bergman kernel asymptotics near various singularities. For genus-two curves particularly, asymptotic formulas with precise coefficients involving the complex structure information are written down explicitly.