

# THE BERGMAN AND SZEGŐ KERNELS AND THE OBSTRUCTION FUNCTION IN STRICTLY PSEUDOCONVEX DOMAINS IN $\mathbb{C}^2$

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We will consider bounded strictly pseudoconvex domains  $\Omega$  in  $\mathbb{C}^2$ . The obstruction function  $b\eta_1$  on  $\partial\Omega$  is the lowest order term in the singularity at the boundary of the Cheng-Yau solution to the Dirichlet problem for Fefferman's Monge-Ampere operator in  $\Omega$ . By the work of Graham and Hirachi-Komatsu-Nakzawa, this function is also the restriction to the boundary of the log term in the Bergman and Szegő kernels in  $\Omega$ . We shall discuss the condition  $b\eta_1 = 0$  on  $\partial\Omega$ ; in particular, if  $\Omega$  also has circular symmetry, then  $b\eta_1 = 0$  is equivalent to  $\Omega$  being biholomorphic to the unit ball  $\mathbb{B}^2$ .

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