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Ronald G. Douglas* (rdouglas@math.tamu.edu), TAMU 3368, College Station, TX 77843, and
Yun Su Kim, Hyun Kyoung Kwon and Jaydeb Sarkar. *Canonical models and similarity.*

An effective approach to the study of contraction operators on Hilbert space is the canonical model theory of Sz.-Nagy and Foias. Here we generalize the notion of canonical model to the context of reproducing kernel Hilbert spaces of holomorphic functions. The generalization uses the language of Hilbert modules and includes the multivariate case as well as the one variable case. We consider when such models are unitarily equivalent and, in some cases, similar. The methods and techniques used rely heavily on complex geometry. (Received July 31, 2012)