An explicit form of the Shimura canonical model for the quaternion algebra of discriminant 6

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For a quaternion algebra B over a totally real field F, suppose the unit group acts as a discrete group on the upper half complex plane. There (uniquely) exists the Shimura canonical model that is a pair (ψ, V) of a modular function of the unit group and the Shimura curve for B. We show an explicit form of this pair for the case $\mathrm{disc}(B) = 6$ by using the theta representation of the Picard modular function of two variables together with a new representation of the Shimura curve.

[Shg1] H. Shiga, "On the representation of the Picard modular function by θ constants I - II", Pub. RIMS Kyoto Univ., **24** (1988), 311 - 360.

[Shg2] H. Shiga, "An explicit form of the Shimura canonical model for the quaternion algebra of discriminant 6", RIMS Kyoto Univ. Koukyuroku, to appear