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Addition law on Jacobian of genus 2 curve.

We shall consider a genus two curve for cryptography, that is an equation of the curve contains y -term. Sigma function related to the curve is constructed by means of recurrence relations in the form of a power series in coordinates of Jacobian variety and parameters of the curve. Explicit expressions of the addition law in terms of (i) Abelian functions and (ii) coordinates of two points will be presented. (Received January 17, 2019)