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Lubjana Beshaj* (beshaj@oakland.edu), 368 SEB, Department of Mathematics and Statistics, Oakland University, Rochester, MI 48309-4485. *Theta functions with half-integer rational characteristics for genus three curves*. Preliminary report.

We will discuss some results for genus 3 non-hyperelliptic curves in terms of theta functions with half-integer characteristics. The case of hyperelliptic curves is well known and has been studied by many authors. We focus on superelliptic curves of genus 3 or higher. Our aim is to express the equation of the curve in terms of the theta-nulls. (Received September 01, 2011)