

T. Shaska, G. S. Wijesiri, S. Wolf, L. Woodland, "Degree 4 coverings of elliptic curves by genus 2" Albanian J. Math. Vol. 2 (2008), No. 4, 307-318.

Abstract:

Genus two curves covering elliptic curves have been the object of study of many articles. For a fixed degree n the subloci of the moduli space \mathcal{M}_2 of curves having a degree n elliptic subcover has been computed for $n = 3, 5$ and discussed in detail for n odd; see [17, 22, 3, 4]. When the degree of the cover is even the case in general has been treated in [16]. In this paper we compute the sublocus of \mathcal{M}_2 of curves having a degree 4 elliptic subcover.