On hyperelliptic surfaces and their blow-ups

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Abstract

Hyperelliptic surfaces were classified by G. Bagnera and M. de Franchis at the beginning of XX century. In 1993 M. Mella and M. Palleschi stated the numerical conditions for the line bundles on hyperelliptic surfaces to be k-very ample. We give a sufficient condition for k-very ampleness of line bundles on the blow-up of a hyperelliptic surface in r general points, similar to one obtained by H. Tutaj-Gasińska in 2005. We sketch the proof, using the result on multiple point Seshadri constants due to B. Harbourne and J. Roé, from 2008.

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