

Meeting: 1007, Santa Barbara, California, SS 4A, Special Session on Automorphisms of Surfaces

1007-14-108 **Tony Shaska*** (tshaska@uidaho.edu), 1678 Appaloosa, Moscow, ID 83843, and **David Sevilla.**
Hyperelliptic curves with reduced automorphism group A_5 .

We study genus g hyperelliptic curves with reduced automorphism group A_5 and give equations $y^2 = f(x)$ for such curves in both cases where $f(x)$ is decomposable polynomial in x^2 or x^5 . For any fixed genus the locus of such curves is a rational variety. We show that for every point in this locus there exists a rational model $y^2 = F(x)$ or $y^2 = xF(x)$ of the curve over its field of moduli where $F(x)$ can be chosen to be decomposable in x^2 or x^5 . This is the first time that such rational models appear in the literature for an arbitrary genus. (Received February 11, 2005)