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The rational Chow rings of moduli spaces of hyperelliptic curves with marked points

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Abstract. We determine the rational Chow ring of the moduli space $\mathcal{H}_{g,n}$ of n-pointed smooth hyperelliptic curves of genus g when $n \leq 2g+6$. We also show that the Chow ring of the partial compactification $\mathcal{I}_{g,n}$, parametrizing n-pointed irreducible nodal hyperelliptic curves, is generated by tautological divisors. Along the way, we improve Casnati's result that $\mathcal{H}_{g,n}$ is rational for $n \leq 2g+8$ to show that $\mathcal{H}_{g,n}$ is rational for $n \leq 3g+6$.

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