

*Abstract submitted for 61st Annual Meeting of the Australian  
Mathematical Society*

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**Title:** Algebraic elliptic cohomology and flops

**Author(s):** Marc Levine, Yaping Yang, Gufang Zhao

**Session:** Category Theory, Algebraic Topology, K-Theory

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I will talk about the algebraic elliptic cohomology theory coming from Krichever's elliptic genus. It is an oriented cohomology theory on smooth varieties over an arbitrary perfect field. We show that in the algebraic cobordism ring with rational coefficients, the ideal generated by differences of classical flops coincides with the kernel of Krichever's elliptic genus. This generalizes a theorem of Totaro in the complex analytic setting. I will also discuss the convergence of the motivic Adams spectral sequence, which is relevant to the integral version of the above theorem.

This talk is based on my joint work with Marc Levine and Gufang Zhao.