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Calculus on symplectic manifolds

Michael Eastwood*

meastwoo@member.ams.org;michael.eastwood@adelaide.edu.au

One can use the symplectic form to construct an elliptic complex replacing the de Rham complex. Then, under suitable curvature conditions, one can form coupled versions of this complex. These constructions are inspired by twistor theory and are especially congenial in Kaehler geometry, two fields close to Claude LeBrun's heart. Finally, on complex projective space, these constructions give rise to a series of elliptic complexes with geometric consequences for the Fubini-Study metric and its X-ray transform.

This talk is based on the work of many authors but, especially, current joint work with Jan Slovak.

*School of Mathematical Sciences, University of Adelaide, Ingkarni Wardli Building, North Terrace Campus, Adelaide, SA 5005, AUSTRALIA